

# ARIZONA RECREATIONAL AIRPORTS SYSTEM PLAN

ARIZONA DEPARTMENT of TRANSPORTATION  
• Aeronautics Division •



# ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN

*Airplanes and Recreation  
do mix! Pictured is the tie-  
down area at the Temple  
Bar Airport, Lake Mead.*





# ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN

## Feasibility Study for Establishing a System of Recreational Airports in Arizona

*Prepared for:*

Arizona Department of Transportation  
• Aeronautics Division •

*Prepared By:*

SFC ENGINEERING COMPANY

■ An Element of the Continuous Aviation Planning Program ■

• 1992 •

# ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN

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# ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN

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## EXECUTIVE SUMMARY

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The Arizona Department of Transportation (ADOT) Aeronautics Division - places a high value on its aviation system. Through a variety of system planning efforts, ADOT-Aeronautics has established a program of system-wide development and improvement for Arizona airports. The development of the Recreational Airport System Plan is in response to a growing interest generated by general aviation users to enhance the recreational opportunities associated with aviation in Arizona. The Recreational Airport System Plan is compatible with other elements of the Continuous Aviation System Planning (CASP) conducted by ADOT-Aeronautics.

Many of the airports identified in the Recreational Airport System are presently contained in the state's Primary or Secondary Airport System. The "Recreational Airport" designation would not necessarily alter an airport's status as a Primary or Secondary Airport. For those airports currently identified elsewhere in the CASP, the Recreational Airport status would enable funding of recreational improvements or minor facility improvements. The majority of facility improvement funding would continue to be provided through Federal Airport Improvement Program funds for Primary Airports, and state aviation grants for Secondary Airports. For those airports not

currently included as Primary or Secondary Airports in the state aviation system, the Recreational Airport status would provide the airport's basic designation, and provide a channel for funding facility improvements. The objectives of the Recreational Airport System Plan include the following:

- Determine the feasibility of creating a Recreational Airport System.
- Establish site evaluation criteria for existing and potential airports.
- Evaluate potential recreational areas and existing airport sites to identify a group of sites with a high potential for implementation.
- Estimate existing and future levels of recreational users.
- Estimate potential economic impacts of a Recreational Airport System.
- Establish priorities, propose development schedules, and estimate capital costs associated with implementing the system.
- Prepare conceptual airport layout plans depicting facility improvements for Recreational Airports.

## **STUDY CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

1. Arizona has a large number of airports located in remote areas which are well-suited in their ability to accommodate recreational activities.
2. Arizona has a substantial amount of public land and natural recreational attractions which encourage use by a wide range of residents and visitors alike.
3. Many airports in remote areas of Arizona are located in, or near, large areas of public land or prime recreational areas.
4. Several existing airports and the potential airports which meet the overall criteria for the Recreational Airport System do not currently have viable local public sponsorship. ADOT-Aeronautics is currently limited to the sponsorship of Grand Canyon National Park Airport.
5. The interest in combining recreational activities and general aviation is well-established, with interest growing throughout the western United States.
6. The facility requirements related to "Recreational Airports" extend beyond those normally associated with general aviation airports to include camping facilities and related user services.
7. The majority of non-aviation recreational facility improvements are not eligible for Federal Aviation Administration (FAA) funding.
8. Funding programs at the state level are currently available for airport and recreational projects through the Department of Transportation-Aeronautics Division, and the Arizona State Parks Board.
9. Providing airfield and camping facilities, while maintaining the natural character of the surrounding area is a basic requirement of the system.

10. Development of the Recreational Airport System is economically feasible based on its overall contribution to the Arizona economy.

11. The development of the Recreational Airport System is scheduled over a 20-year period. Accelerating the investment in initial system improvements will enable the economic impacts associated with the system to be experienced earlier in the planning period.

### **Recommendations**

1. Establish the Recreational Airport System as an element of the Continuous Aviation System Planning (CASP) process.
2. An Implementation/Oversight Committee, consisting of representatives of the state and federal land use and resource agencies, state legislature, aviation user groups, and other interested parties should be established to assist ADOT-Aeronautics during the initial system implementation. The committee should also address system-related issues such as intergovernmental coordination, system refinements, and assisting in the periodic review of future candidate airports or sites for inclusion in the Recreational Airport System.
3. The Recreational Airport System should initially consist of twelve (12) existing airports and four (4) new airport sites.
4. Provisions should be pursued at the policy and legislative level to enable the Arizona Department of Transportation-Aeronautics Division to accept sponsorship responsibilities for those airports without viable local sponsorship.
5. Three prototype airports, Alamo Lake, Sedona and Grapevine, representing the basic airport categories, should be improved/developed initially to provide a test program for the system.
6. ADOT-Aeronautics should establish criteria and minimum standards for Recreational Airports and camping facilities.



7. Initial funding of the Recreational Airport System should be pursued through the State Transportation Board to complete the initial phase (short-term) of improvements.

8. Promotion of the Recreational Airport System should include a coordinated tourism marketing program with Arizona Office of Tourism and a variety of regional and national aviation user groups.

9. The scale of development for the average Recreational Airport should be limited to maintain the natural setting of the surrounding area.

10. A Continuous Planning Process (CPP) should be established which enables the Recreational Airport System to accommodate potential new airports or recreational sites.

# **Chapter One**

## **Introduction**



## **CHAPTER ONE**

### **INTRODUCTION**

---

The Arizona Department of Transportation (ADOT), Aeronautics Division has recognized the need to provide recreational area destinations for general aviation users. Continued requests for similar types of facilities to those provided for other modes of transportation (i.e., recreation vehicles) have been received by the Aeronautics Division, prompting the preparation of a Recreational Airport System Plan.

This study will evaluate the feasibility of developing a system of airports which are unique in their ability to serve recreational-based general aviation activities. The study will include establishing a basic definition of a recreational airport; an assessment of potential users; estimates of system-wide development costs; and an indication of potential economic impacts. A major element of the system plan will be the selection of the first group of recreational airports which meet the specified criteria, as defined in the study.

A planning advisory committee (PAC) consisting of representatives from aviation user groups; state transportation, land, tourism, and parks departments; Federal Bureau of Land Management and Forest

Service representatives; and members of the Arizona State Legislature; was formed to assist the consultant in the study process. The identification of recreational airports as a specific category within the State Aviation Systems Plan (SASP) will allow ADOT to direct resources in a well-defined approach which ensures that individual airport/recreational facilities are developed and the social and economic benefits to Arizona are maximized.

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#### **Study The Feasibility Of Establishing A Recreational Airport System**

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The primary objective of the Arizona Recreational Airport System Plan is to create a system of general aviation airports which can provide aircraft-accessed camping/picnic facilities at remote recreational areas around the state. As envisioned by ADOT staff and the planning advisory committee, a typical recreational airfield would be located close to a prime recreational activity and would provide camping facilities and other services for users. Pilots and their passengers would be able to fly directly to

an airfield adjacent to a designated recreational area and find all the facilities and services needed without having to use another motorized mode of ground transportation. Ideally, recreational activities would be within a reasonable walking distance of the airfield and camp grounds. The participants of this study believe that when recreational facilities similar to those provided to the RV users are made available to the general aviation community, an additional source of tourism will be created.

Some existing airfields offer access to prime recreational opportunities at a substantially lower cost than would be involved in building new aviation facilities. However, most existing airfields do not have recreational facilities at the airfield itself and are not designed to provide the services associated with the general aviation tourist market. Combining basic airport and recreational facilities in prime natural areas will promote increased aviation and tourism activities throughout the state. The promotion of general aviation activities by the state through the Recreational Airport System Plan will also help to generate interest and support from local and out of state general aviation groups, adding to the economic benefits of the system.

The improved ability to access the state's natural, historical, and educational opportunities will further promote the recreational attributes of the state of Arizona. With a mobile and relatively large general aviation market located within a few hundred miles of any potential recreational site in Arizona, the prospects for establishing a successful system of recreational airfields is very high. The benefits of the Recreational Airport System will extend beyond those directly associated with aviation, to include broad-based economic benefits which will be experienced throughout the state.

## **Arizona Tourism & Recreation and the Affects on Economy**

Tourism and recreational activities within the state are integral parts of Arizona's economy. They are increasingly becoming the focus of community economic development efforts. Maintaining an effective balance between economic development and the unique natural attraction of Arizona, is an essential ingredient of this program.

The Arizona Office of Tourism (AOT) and the Arizona State Parks Department were two primary sources of tourism and recreational data for this study. AOT is currently responsible for promoting and developing tourism business within the state. In all its endeavors, the AOT represents all of the recreational, scenic, and historic attractions of this state and all communities and regions in Arizona. The agency also disseminates information about Arizona to the public through various state, national, and international media.

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### **In 1989, Visitors Added Nearly \$6.1 Billion To Arizona's Economy**

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According to the AOT, in 1989, nearly 18 million people visited Arizona adding nearly \$6.1 billion to the economy. Directly and indirectly, the industry created over 260,000 jobs for Arizona. Tourism has become a major economic factor for the state. New programs and policies introduced at the state level specifically identify and target these leisure travelers. The AOT 5-Year Plan (1991-1996) indicates that by 1995, it is the objective of the AOT to bring 21 million tourist visits to the state generating \$7.5 billion in revenue and creating 350,000 tourism related jobs. By 2000, AOT policies and programs will result in 25 million tourist visits, \$10 billion in tourism related spending, and 500,000 tourism related jobs.



This will include intra-state tourism, inbound domestic tourism and inbound international tourism. A listing of prime tourist attractions or activities in the vicinity of selected Arizona airports is included in Appendix A.

Unique recreational and outdoor experiences play a large part in attracting visitors to Arizona. The Arizona State Parks Department plays a major role in the development, protection and enhancement of state-wide recreational areas. In order to provide continued protection, enhancement, and enjoyment of the state's natural environment, the Arizona State Parks Department completed their State-wide Comprehensive Outdoor Recreation Plan (SCORP) in 1989. The SCORP is a vehicle through which the coordination of outdoor recreation planning and development along with the Recreational Airport System Plan can be achieved. The 1989 SCORP Study provided valuable information related to tourism and recreational activities within the state:

- A 1987 survey of Cape Royal Overlook, at the North Rim of the Grand Canyon, found that 90 percent of the people were from out of state. The Grand Canyon is the most popular park or monument for tourists, visited by 21 percent of auto travelers to the state in 1984; 10 percent to air travelers; and 27 percent of in-state travelers.
- Two 1984 surveys of residents and visitors found comparable participation rates in the two groups: bike riding (31 percent of each group); hiking and backpacking (20 percent and 14 percent respectively); and horseback riding (10 percent of each group).
- In 1980, 16 percent of hunting in Arizona was by non-residents, for a ranking of 23rd in the nation. In 1985, the percentage of non-resident hunting was 17 percent, increasing the state's ranking to 21st in the nation.

- In 1980, 30 percent of fishing in Arizona was by non-residents, for a ranking of 23rd in the nation. In 1985, 29 percent of fishing was by non-residents, raising the state's ranking to 22nd in the nation.

It is important to recognize that to build tourism through general aviation, the market area beyond Arizona must be considered. Arizona aviation includes approximately 14,500 active pilots and 6,194 registered aircraft. In the California market area alone, there are over 103,800 active pilots and 34,786 general aviation aircraft. There are many other states with large numbers of pilots and registered aircraft to draw upon to build this new system. Expanding the tourism market in Arizona to include the users of general aviation would be especially beneficial to the more remote areas located throughout the state.

### **Roles And Responsibilities Of Recreation Providers**

The roles and responsibilities of each agency involved with outdoor recreation must be considered in order to recognize the factors which influence outdoor recreation and land use policies. A unique situation is created by the large amount of land in public ownership and the number of different managing agencies. Government at all levels has the responsibility for assuring opportunities for all people to participate in outdoor recreation activities, while preserving the significant historical and natural values associated with these areas.

The State's roles and responsibilities in providing for the recreational needs of the public have evolved over the years into an extensive system of resources and programs. A number of state agencies play important roles in offering opportunities which contribute to the quality of life associated with the Southwestern United States by providing outdoor recreational, historical, and cultural resources for public use. These include: Arizona State Parks Board, Arizona Outdoor Recreation Coordinating Commission, Arizona Game

and Fish Department, Arizona State Land Department, Arizona Department of Commerce, Councils of Governments, Office of Tourism, Arizona Department of Transportation, and Arizona Department of Environmental Quality.

Agencies such as the National Park Service, Forest Service, Bureau of Reclamation, Bureau of Indian Affairs, Bureau of Land Management, U.S. Army Corps of Engineers, US. Fish and Wildlife Service, Soil Conservation Service, Department of Transportation, and United States Geological Survey provide similar guidance on federal lands. County and municipal park and recreation organizations provide knowledge of local concerns and interests.

The Aeronautics Division of ADOT will begin to play an important role in the further development of state-wide recreational facilities through the implementation of the Recreational Airport System Plan. This plan will enable the state to become more involved and provide direction in the continued development of state-wide recreational facilities with general aviation. Upon completion of the Recreational Airport System Plan, together with the support of other agencies, ADOT Aeronautics will be able to help promote this plan on a state-wide and national level.

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### **Implementation Will Require On-Going Participation Of Involved Individuals, Groups, And Agencies**

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As noted earlier, when completed, the Recreational Airport System Plan will become an element of the Arizona State Aviation System Plan (SASP). The Primary and Secondary Airport System airports included in the SASP are identified in Figures 1-1 and 1-2. The majority recreational airport sites utilizing existing airports will be included in the SASP.

Following adoption of the study, an implementation committee consisting of

representatives of aviation, recreation, and land use groups and agencies should be formed to assist ADOT Aeronautics through the second phase of the process. Once the feasibility of the system is determined, a practical program of implementation can be initiated. However, it is evident that the complex land use, sponsorship, and funding issues associated with implementing a new system of recreational airports will require the on-going participation of these groups.



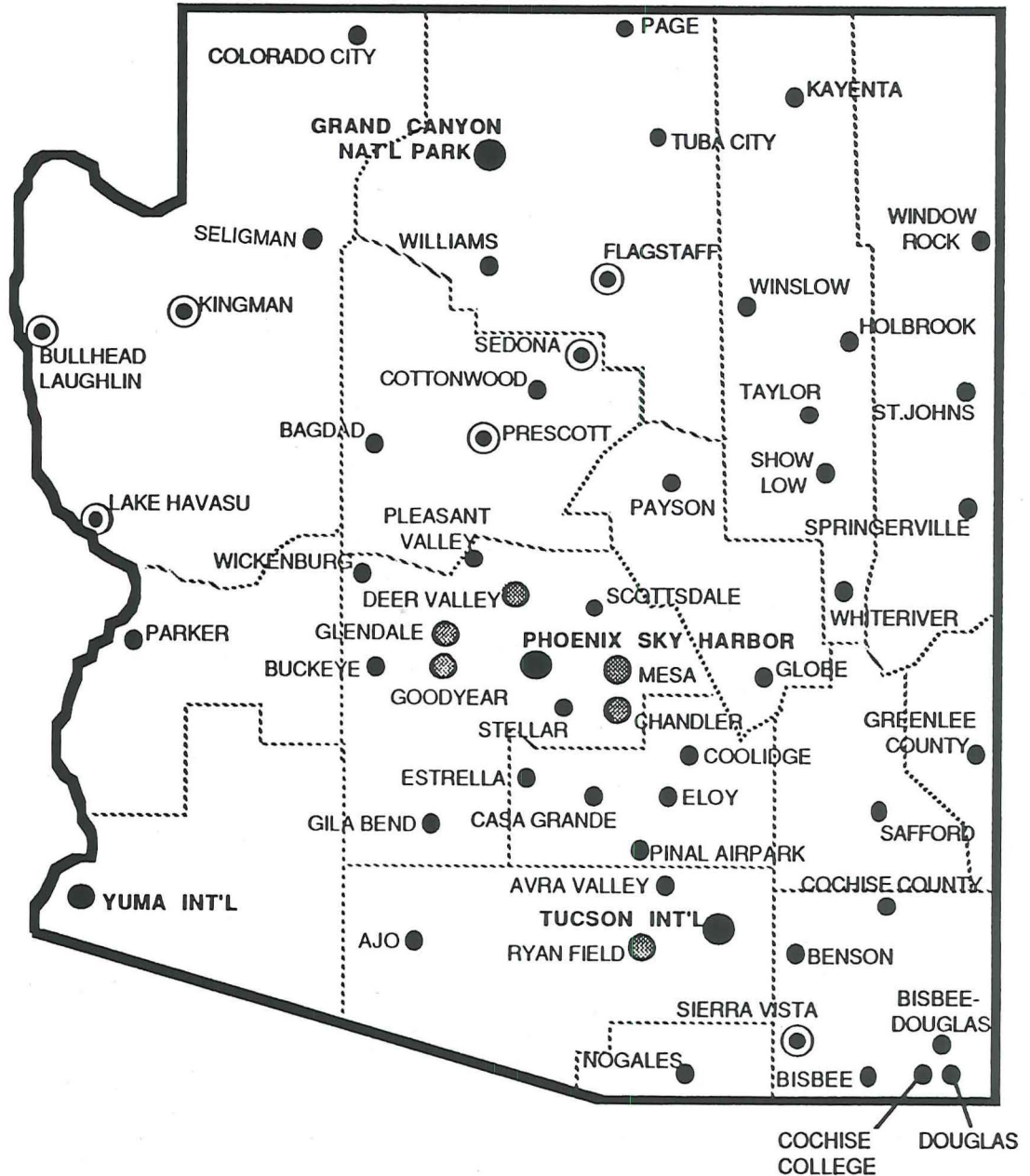
# PRIMARY AIRPORT SYSTEM

## ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

**Figure 1-1**  
**AIRPORT CLASSIFICATIONS**  
**COMMERCIAL SERVICE AIRPORTS**

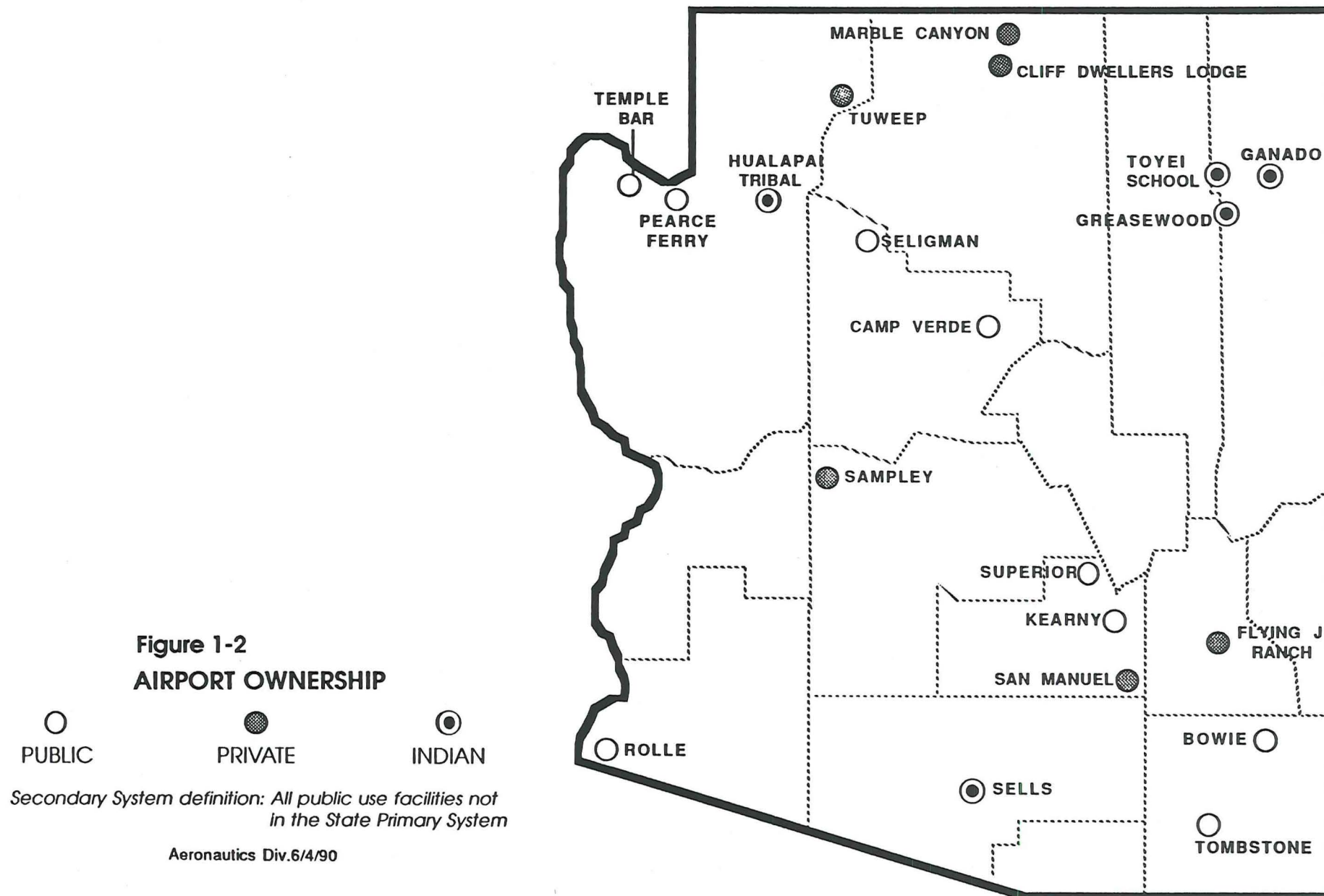
- PRIMARY
- OTHER
- RELIEVER AIRPORTS
- PUBLIC USE AIRPORTS

Aeronautics Div.6/4/90



# SECONDARY AIRPORT SYSTEM

## ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN





# **Chapter Two**

## **Definition of Recreational Airport/Airfields**

## **CHAPTER TWO**

### **DEFINITION OF RECREATIONAL AIRPORT/AIRFIELDS**

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The primary objective of the study is to identify for development, a system of airports/airfields within the state of Arizona, that will accommodate aviation users at established recreational sites. In order to select sites to be evaluated, it was necessary to establish an objective criteria which could be applied to all potential sites. Definitions of a typical recreational area and recreational airfield that would serve the potential site are described below.

#### **Recreational Area Or Site**

In order to qualify as a potential recreational site suitable for evaluation in this study, an area must have direct access to federal or state parks, a lake, river, stream, historic site, or other natural attraction.

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#### **A Recreational Airport Site Will Have Direct Access To A Prime Recreational Area**

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Recreational activities may include hunting, fishing, hiking, boating, golfing, and camping. The site can already be in use by the public via other modes of transportation or can be an entirely new

site with only air access potential. Existing or potential recreational locations would also be evaluated based on the potential of providing possible sponsors of an airfield facility. Sites should be located where both day camping and overnight camping can be provided.

#### **Recreational Airport/Airfield**

A recreational airfield that will attract and accommodate potential users will require facilities similar to those provided users of other recreational areas accessed by more traditional forms of transportation (i.e. automobiles, RVs, etc.). The sites should be located as close as possible to the attraction to allow the users to walk to the area with camping gear. The airfield should have a runway adequate for most single or small twin engine aircraft. Initially, it is not believed that a parallel taxiway would be required at most sites. A hard surface runway in most cases will not be necessary as long as the surface is stabilized to allow use by tricycle geared aircraft. Apron areas should have tie-down equipment that will allow the owner to secure their aircraft when away from the immediate site. At most of the recreational airport sites, it will not be necessary to provide aircraft services such as fuel and maintenance.



## **Camping Facilities**

Camping sites that are developed in conjunction with the airfield should include, if possible, toilet facilities, showers, water, and electrical service. The sites should include cleared areas for tents, picnic tables, informational kiosks, shade ramadas, and safe locations for campfires. Camping locations should be placed as close as practical to the airfield while maintaining adequate separation from runways and other airfield operating areas. If possible, each potential site should have roadway access for emergency and maintenance purposes, as well as access to nearby recreational facilities or communities.

## **Airfield Sponsorship**

It will be important that each site have a sponsor for the aviation and camping facility. The State of Arizona, at this time, has the authority to own and operate only the Grand Canyon National Park Airport through ADOT-Aeronautics. Airport sponsors can be either a county, city, or town. However, a federal or private entity may opt to be included in the Recreational Airport System Plan by providing their own funding for development and operation. An important part of the selection process is identifying a sponsor who can qualify to become the airfield's owner/operator. The proposed owner may be required to provide the necessary local funding to match a state or other development grant, and maintenance of the airfield once developed.

At many airports and potential sites, the issue of land ownership exists. In some cases multiple jurisdictional and regulatory claims may be present. For each site, a detailed evaluation of land ownership will be required prior to initiating airfield or campsite improvements.

## **Airfield Development**

When designing the proposed airfield, it will be important to keep the initial cost for

construction as low as possible due to the limited availability of state and sponsor funds. Maintenance costs will be an important factor in the facility design. Each new or existing airfield will have limited access and relatively limited use. Revenue generated at each site will most likely not be adequate to provide a high level of ongoing maintenance and this should be taken into consideration during the facility design. As discussed above, many runways may not have paved surfaces. The runway surface should be graded and at a minimum stabilized with a fairly hard and smooth surface. The runway should ultimately have aircraft turnarounds or run-up areas at each runway end. Potential heavy use facilities may ultimately require the development of a parallel taxiway to improve the operational capability and safety of the airfield.

## **Operation And Maintenance**

The appropriate runway length for each location is based upon the elevation of the site, average temperature during the usable period, meteorological conditions, runway gradient once constructed and the critical aircraft. The specific site will also determine the width of the runway and area that needs to be cleared to insure a safe operation. According to FAA design standards, a runway width of approximately 60 feet would normally be adequate for this type of use. With the potential that the runway will not be a hard surface (asphalt or concrete), a wider surface may be necessary. The width of the clearing for the runway should be determined by approved standards or that required for safe operation of aircraft by pilots with average skills. It will be important to keep obstructions to navigation to a minimum whenever possible.

The potential airfields evaluated in this study were typically limited use facilities that produce minimal revenues for their operation and development. This operational characteristic supports the objective to design the facilities with minimal maintenance requirements. The association of the airfields with existing



recreational facilities and sponsors could support efforts to provide the desired level of security and maintenance for these facilities. It will be important that each of the new or existing recreational airfields have periodic inspections of the facilities to insure that safety is maintained for all users.

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### **The Typical Recreational Airport Will Have Basic Airfield And Camping Facilities With Low Maintenance Requirements**

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It will also be important to provide grounds maintenance and clean up for each of the airfield sites. Clean, well-maintained camping sites will attract new users as well as enhancing the potential of repeat visitors. Facility maintenance and upkeep will be an ongoing responsibility for the sponsor/owner.

### **Safety Considerations**

When selecting sites that have the potential of becoming a recreational airfield, it is important to insure that they have unobstructed approaches and departures for aircraft. It is also important to select sites that allow aircraft arrivals and departures in the same direction. Area obstructions to airspace should be minimal and those that do exist, should not impact the safe use of the airfield by aircraft.

The typical recreational airport will be used by light aircraft during daytime VFR conditions. The limited availability of electricity in some remote areas may not make runway lighting or visual guidance indicators feasible at all sites. Providing runway edge reflectors may be an option at many airports.

### **Security**

Providing fencing in the airfield and aircraft storage areas is an important security consideration. Securing aircraft from animals as well as unsupervised or unauthorized people will be important. Providing adequate security for airfield

and recreational area equipment will be the responsibility of the sponsor. Security for the new airfield/recreation site could be enhanced with the availability of local law enforcement.

### **Utilities**

Access to potable water, electricity, sewage and trash disposal are favorable conditions in the site evaluation. The need for water would be considered the highest priority requirements. If the site has electrical service, a well could provide the necessary water. Proximity of utilities to an established recreational area and/or the airfield will be a factor at each site. A septic system could be developed that would provide adequate sewage disposal for the limited use facility. An option to sewage disposal would be waterless composting toilets.

### **PRELIMINARY SITE EVALUATION**

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At the Planning Advisory Committee (PAC) Meeting on 21 March 1991, the Consultant presented 60 existing and potential sites for aviation recreational/camping facilities. These sites were reviewed by members of the PAC and the general public at this meeting. The Consultant recommended approximately 40 sites to be visited and which required additional study. These sites are listed in Table 2-1, Recreational Airport Sites Studied. The final 18 sites recommended for further evaluation are presented in Table 2-2, Potential Recreational Airport Sites. Of the 18 final sites selected to be evaluated, 12 were existing airfield facilities and 6 potential airfield/campground locations. To aid in the selection of the preferred airfield sites to be developed, a matrix was developed to assist in quantifying the criteria for each potential site.

Each airfield site, whether existing or potential, was visited by the evaluation team. The actual facility, if existing, was thoroughly inspected; owners/operators

**TABLE 2-1**  
**RECREATIONAL AIRPORT SITES STUDIED**

**NORTHERN & NORTHWEST ARIZONA**

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**Existing Sites**

- Grand Canyon
- BarTen - North Rim
- Williams
- Temple Bar
- Pierce Ferry
- Grand Canyon Caverns
- Seligman
- Tuweep
- Page
- Cliff Dwellers Lodge
- Whitmore Canyon - Lake Mead Area

**New Sites**

- Lake Mead Recreational Area/Willow Willow Beach & Campground/Boat Docks
- Lake Mary Area/Kinnikinnick Lake
- Lake Powell - West of the Colorado River

**MID-STATE**

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**Existing Sites**

- Yolo Ranch
- Roosevelt Lake (Grapevine)
- Pleasant Valley - Young
- Payson
- Sedona
- Horseshoe Lake

**New Sites**

- Pine/Strawberry Area
- Alamo Lake State Park

**EASTERN**

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**Existing Sites**

- Heber/Overgaard Airport
- Snowflake
- Blue
- Springerville
- Show Low Airport/Long Lake

**New Sites**

- Big Lake
- Alpine/Nutriso/Beaverhead Lodge
- Eager/Mexican Hay Lake
- Greer/River Reservoir and Tunnel Reservoir
- Woods Canyon Lake

**SOUTHEAST**

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**Existing Sites**

- Klondike

**New Sites**

- Portal - South Chiricahuas
- Roper Lake State Park

**WESTERN**

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**Existing Sites**

- Cibola
- Estrella

**New Sites**

- Cibola Area

**SOUTHWEST**

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**Existing Sites**

- Martinez Lake - North side of lake and east side at Fishers Landing.

**New Sites**

- Picacho Park



were contacted for sponsorship and program support, the recreational activity was evaluated and the entire area was video taped for future reference. Each site was evaluated based on a list of factors which included environmental impacts, obstructions to airspace, construction impacts and costs, sponsorship, compatible land uses, recreational activity and many others. A weighted scale was developed by the Consultant so that all sites, whether new or existing, could be evaluated on a system-wide basis.

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### **The Preliminary Site Evaluation Resulted In 18 Sites Being Recommended For Further Study From The Original List Of More Than 60.**

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The results of the site visits and evaluation are presented in Appendix B, Recreational Airfield Site Selection Matrices. A description of each site is provided with an airport layout plan type drawing. The drawings show the basic facilities at existing airfields, while the potential sites would require additional study as to the feasibility of developing an airport on the site. The evaluation process produced some excellent existing and potential sites with a broad geographic and recreational base.

The recommended sites were selected based upon a series of established criteria. The evaluation criteria included recreation activity, airspace conflicts, and sponsorship as areas of primary concern. The existing airfields included on the final list of recommended recreational facilities will be the easiest to develop and promote. The fact that several existing airports already have camping facilities (or allow camping in undeveloped areas) was evidence of the growing interest in this activity. Many airports, even if they do not have camping facilities, will accommodate pilots who want to fly in and camp at the airport. Those airports that already allow camping are Sedona, Payson, Yolo Ranch (with permission), and Temple Bar. There was some camping going on in the area of Marble Canyon Airfield, but for the most part, the owners discourage camping.

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### **Aviation Camping Is Already Accommodated At Several Airports Around Arizona**

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The site selection process was divided between existing airfields and potential airfield sites. Each airfield or prospective airfield was evaluated on established criteria. Estimated costs associated with the development of either a full airfield and camping facility or just a camping site at existing airports, were included in the evaluation. An estimated cost for maintenance was also presented in the evaluation. The cost for maintenance will vary with each facility based upon the distance from the site of the personnel who will perform the campground/airfield upkeep.

An airport layout drawing has been prepared for each new or existing site. The drawings are only conceptual, but they do adequately depict the layout or potential layout of each facility and the surrounding area.

One of the most difficult issues related to the planning and implementation of the system will be airport sponsorship. Where local sponsorship may not be available, the possibility of state involvement exists. Establishing an increased role for state government in the operation and ownership of airports would require that new legislation be passed. Currently, ADOT-Aeronautics Division has the authority to own and operate only the Grand Canyon National Park Airport.

The information and issues contained in the second working paper were discussed with the Planning Advisory Committee (PAC) and at the Public Meeting on 25 June 1991 at 3:00 p.m. and 6:30 p.m., respectively. The Consultant presented the recommended airfields for continued study and gave the Advisory Committee and the general public an opportunity for discussion and input.

The first working paper provided the groups involved with the necessary

information to assist in the evaluation of the sites. A matrix was developed which included each of the evaluation factors rated and weighed. Based on this analysis, each site was given a score that could be compared to the other sites. The sites with the highest overall score were identified as the locations selected for further evaluation.

The following is a description of each of the criteria on which all sites will be evaluated. This evaluation is intended to provide preliminary information for use at the system planning level. A more detailed review or assessment of environmental factors may be required for each site, depending on the proposed development. At sites where new airfields are recommended, a detailed Environmental Assessment document may be required.

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**TABLE 2-2**  
**POTENTIAL RECREATIONAL**  
**AIRPORT SITES**

**Existing:**

Temple Bar  
Grand Canyon National Park Airport  
Grapevine Airport (closed)  
Marble Canyon Airport  
Yolo Ranch Airstrip  
White Mountain Lake Airfield  
Sedona Airport  
Payson Airport  
Mogollon Airfield  
Pearce Ferry Airfield  
Grand Canyon Caverns Airfield  
Martinez Lake  
Pleasant Valley (Young)

**New:**

Kinnickinnick Lake  
Sprucedale Ranch  
Big Lake Recreation Area  
Greer Lake  
Alamo Lake  
Mormon Lake

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## **EVALUATION CRITERIA**

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### **Noise**

Noise is usually the most significant airport generated impact on surrounding land uses and the environment. Flight requires energy, and the power generated to make the energy creates sound. Sound energy developed by aircraft engines is decreasing with technology, however, it will never be totally eliminated. Therefore, examination of a potential airport site regarding the impact of aircraft noise is important. Identifying noise sensitive land uses, such as residential development in the vicinity of specific site, may be more important overall than evaluation of the projected footprint of a standard noise contour.

Introducing a new noise source into a rural setting is likely to be more significant than at an existing site due to the fact that the inhabitants are accustomed to the existing noise element. As new airports are developed and existing airports improved, the local airport sponsor, or responsible agency will coordinate with state and federal resource agencies to ensure the noise related impacts on surrounding areas are minimized.

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**Recreational Airports Will Be  
Developed In Order To Maintain  
The Highest Compatibility With The  
Natural Setting**

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### **Air Quality**

The remote Arizona areas evaluated as potential recreation airfield sites have not had significant problems with air quality relative to suspended particulates. The proximity of any of the sites to the recreational areas should not be expected to cause any new concerns or greatly impact the local air quality. Strict construction requirements on dust control are expected to reduce the short term impacts on all of the proposed sites.



## **Construction Impacts**

Most construction impacts are temporary and will not impact the recreation area for an extended period of time. All airport construction projects will include within the design specifications, the requirement to mitigate impacts caused by the development activity. Evaluation in this category should only include the specific effects during construction which may create adverse environmental impacts. These could include noise of equipment, dust, spoil disposal, air pollution and water erosion. Most construction impacts are of a short duration and the weight of this should be reflected in this category.

## **Water Quality**

Area topography will play an important role in the site selection process. Water runoff from areas upstream from proposed camping and airfield sites and associated water quality degradation can be a serious concern. The environmental sensitivity of the recreational areas selected will impact the site selection as well as the design of the final airport facility. High water flows or flooding can be a major site problem that will need to be thoroughly studied. The actual airport facility, with controls for handling contaminated surface water, should not create any significant problems for the recreational area. Existing or future water sources in the vicinity of the potential sites will be of concern.

## **Endangered and Threatened Species of Flora and Fauna**

It is important to identify all environmentally significant species of Flora and Fauna existing in the area of each specific site. The greater the number of endangered and protected species of wildlife or plants existing at a specific site, the lower the rating. The weight of the environmental factors will depend on the existence of significant species in the area of the potential sites. If endangered or threatened species exist, this does not mean that a specific site cannot be considered for development. It is often possible to identify

effective mitigative measures to address these concerns.

## **Compatible Land Use**

The compatibility of existing and planned land use in the vicinity of potential airport sites is associated primarily with the extent of projected noise impacts generated by aircraft and automobiles using the facility. The effects of existing or planned land uses surrounding each potential site is a significant factor in the evaluation. In cases where potential sites are located within state or federal forest or parklands, the proposed improvements would require working with the agency to responsible land agency to amend the existing land use plans. Land use controls on and off the potential site are important in preventing incompatible activities that could reduce the effectiveness of the airport in the future.

## **Social Impacts**

The principal social impacts to be considered are those associated with relocation or other community disruption, which may be caused by the development of an airport on any one of the potential sites. Relocation of residences or businesses, altering surface road systems, disrupting communities, and creating an employment change, are all areas of concern which need to be addressed for each of the potential sites.

## **Geology and Soils**

Each of the potential sites will be evaluated based on the type and characteristics of the soils and how they relate to construction of different types of facilities. Any terrain problems existing at a site will be included in the evaluation. If there is an added cost for construction associated with the geology and soils, it will be reflected in the evaluation. Poor soils or terrain problems can be a significant concern for the actual development of the airport facility. If a site has a high water table it would also be a cause for concern and be reflected in the rating.



## **Obstructions**

Terrain or physical facilities such as towers, that might impact the airspace surrounding a specific site, can be a limiting factor in the ultimate use of the airport. Mountains in the area of sites that could restrict aviation operations should be carefully evaluated. The FAA, when reviewing a site for an airport, insures that it can accommodate a standard aircraft traffic pattern and provide obstruction clearance in the immediate vicinity. Significant terrain limitations will create long term difficulties for the airport operation.

## **DOT Section 4(f)**

Section 4(f) involves the use of public parks, recreation areas, or wildlife and waterfowl refuge of national, state, or local significance; or land of an historic site. The Act states that it is possible to use or take over such a facility if no other alternative exists. Therefore having a 4(f) site in the area of a potential site would not necessarily rule the site out as a potential airport. Most of the viable sites that will be evaluated will probably be located near Section 4(f) lands. However, in most cases, the development associated with these facilities will be limited, in scale, with the objective of maintaining the existing natural setting.

## **Historic, Architectural, Archaeological, And Cultural Resources**

A thorough records search must be completed to insure that no significant resources exist on a potential site. Any potential impact on a these resources will result in a lower rating. The significance of the resource would also be a factor in the evaluation process. It may be necessary to complete an on-site investigation of potential historic resource prior developing a site. A significant resource on a site does not necessarily eliminate a site from development, depending on the mitigation required. It may also be necessary to continue an on-site investigation during

the construction process to insure that no archaeological resource exists.

## **Biotic Communities**

If a potential site impacts water resources (i.e., wetlands, ground water, or streams) wildlife or waterfowl refuges or other habitat, the scoring would be substantially lower than a site not having an impact. This is a particularly sensitive area and any significant impacts on biotic communities would make development of the site very difficult. Acceptable mitigation measures for any impact in this area will normally result in higher development costs.

## **Development Costs**

The estimated cost of constructing the full airport facility was developed for each site. These estimated costs will be based upon a standard or basic airport facility that has been accepted by the Planning Advisory Committee and ADOT staff. Obviously the higher the cost for constructing the facility, the lower the score that the evaluators should give to the potential site. The costs associated with providing camping facilities was also included for each site. This evaluation factor could greatly impact the final outcome of the site selection process, so its weight would be fairly high.

## **Access**

The cost of providing a roadway and other services to the specific site were important in this evaluation process. In this evaluation, the distance from existing roadways, utilities, and other services from the site were considered. The evaluation can use the cost of providing the access and other services or the distances from the potential site as determining factors. It should also be remembered that it is possible to develop one of the potential recreational airport sites without having ground access or utilities.

## **Expansion Potential**

To insure that the airport will be able to meet the future aviation demands, each site is evaluated to determine whether it has expansion potential. It will also be important to evaluate the local sponsors ability to protect the specific site to allow for future expansion.

## **Airspace Conflicts**

There are existing military restricted areas involving airspace over a large portion of Arizona. How the existing airspace restrictions affect each potential site will be of importance to the evaluation. Any restrictions to aircraft operations, due to airspace conflicts, should be evaluated and the impact on a potential site reflected in the score. The airspace required for another airport in the area of a potential site could have a negative impact in the rating.

## **Utilities**

Access to potable water, electrical power, and sewage disposal are important to the services an airfield or campground can offer its users. It is possible to develop a site without utilities, but a site with limited utilities will rate higher.

## **Recreational Activity**

It was necessary to prioritize the types of recreational activities based on potential use with general aviation. Recreational areas will include federal or state parks, lakes, rivers, streams, historic sites, or other natural attractions. Sites with hunting, fishing, hiking, boating, and camping are considered to represent the desired use of a recreational airport. Other activities such as golf, horseback riding, or nearby tourist attractions may also be available. Most selected sites will include one or more of these activities, and the established priority schedule will help to give each site a numerical rating.

## **Distance from Activity**

Most of the users of the potential airfield site will be arriving by airplane, therefore, the distance to a recreational activity is an important factor. In most cases, the primarily objective was to locate recreational airfields within walking distance to the attraction. This may not always be possible, so the farther the attraction is from the potential site, the lower the score for this element. The lowest rating for a potential site will be scored if another mode of transportation is required to get from the airfield to the recreational activity.

## **Estimated Annual Users**

It was determined at the outset of the study that projections of potential users at each airport site would be needed. Establishing baseline and future estimates of user levels is difficult due to an absence of historical data. The State of Idaho Aeronautics Division manages a similar program and was very helpful in providing data related to their recreational airport.

Based on this information and evaluations of general aviation users data, and the potential markets, general estimates of activity could be prepared. Other factors such as distance from population centers, the type of recreational activities available at a particular site, and the quality of facilities available will also directly affect activity levels. It is also believed that a large number of users will come from the California market area. The percentage of California users could range as high as 60% of the potential users. The State of Idaho found that 15% of their recreational airport users come from this California market as well as an additional 60% from other states.

To determine the number of actual users, a length of season that the facility could be used was determined. Experience at other airports would indicate that weekend use is



likely to be higher than weekday use. An estimate was developed of the number of aircraft and pilots expected to use the airport on an annual basis. To determine overall annual user estimates, the number of aircraft were multiplied by 2.5 persons per aircraft to reflect pilot and passengers. It is assumed that recreational use of these facilities will be popular as a family activity. Because this element is somewhat subjective, a program of activity counting or user surveys could be utilized to provide valuable data in early implementation stages of the system.

## **Sponsorship**

Each site must have a sponsor who can financially participate in the development of the airfield as well as the operation and maintenance of the facility once constructed. Sponsors can either be a city, town, or county entity. Higher ratings are given to those facilities where the potential of attracting a viable sponsor is greatest. Local governments would have access to other types of funding vehicles that might help support or develop the airport facility. Private and federal sponsors may be included with the understanding that each entity will be responsible for their own funding sources. This will ensure that all possible sites will be considered in this system plan.

## **SITE EVALUATION RECOMMENDATIONS**

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The preceding elements of the Arizona Recreational Airport System Plan defined the accepted development criteria and conceptual layout for recreational airfields/airports. Potential candidates for both existing airports and potential sites were also identified. An extensive field survey and site inventory was conducted for all possible airports in the state which were initially considered for inclusion in the Recreational Airport System. These airports/sites were generally associated with or located near, recreational activities that would be attractive to aircraft owners and pilots. The sites were also evaluated as to their potential for attracting aircraft

owners and operators wishing to camp where there was convenient access to recreational activities.

All existing or potential recreational airport sites were investigated and then prioritized based upon a series of evaluation criteria. The end result was a selection of twelve existing airports and four potential sites. In the most recent phase of the study process, each potential recreational airport site was evaluated in greater detail and preliminary cost estimates were developed based upon the definition of a recreational airport.

As the study developed, three potential airport classifications have evolved within the recreational system. The first type of facility has been designated as a Rural Existing Recreational Airport. This type of facility is represented by existing rural airports that would attract significant recreational use if camping and related facilities were made available. This is a destination campground type facility intended for day-use and overnight camping. The second category is designated as a Rural New Recreational Airport. These facilities are also destination campground type facilities with the main objective of day-use and/or overnight camping, however these facilities will need to be developed and constructed. The third category is designated as a Community Recreational Airport and is represented by an existing airport facility which attracts an aviation user through recreational opportunities adjacent to the area. This type of facility will attract the overnight camper as well as the family staying in a nearby hotel or lodge. These facilities may have lodging available nearby, rental cars, etc. as well as a variety of attractions in a slightly more developed setting.

A basic economic impact analysis of the system is an important element in the overall evaluation. It also be important to consider the overall economic impact the system will have on a local and state-wide basis. In order for the system to be effective, a variety of funding sources should be utilized. The study provides a thorough description of the costs associated with implementing the Recreational



Airport System; evaluates existing and potential regulatory constraints; and provides a development program which addresses funding limitations and development priorities.

The institutional requirements associated with bringing all involved parties together is particularly important. The issue of sponsorship, funding, and in some cases use of government lands, will require a significant level of cooperation between parties. Much of this effort would be concentrated during the initial implementation phase of the program, however, in order for the system to be fully functional, a permanent structure for review and communication will be required.

### **Airfield Development**

A detailed outline of each existing airfield or potential airfield recommended development program is included in Appendix B. A conceptual Airport Layout Plan has also been included which details the proposed development for each existing and future airfield. The proposed facilities for the existing airfields will include recreational campsites and aprons. The estimated costs and development programs for the proposed new airfield sites include the construction of the entire airport facility including the camping area. The Capital Improvement Program (CIP) stages development over a twenty year period and represents the level of funding required for each facility. The total cost of the system could not be borne by any single sponsor or set of sponsors in a single year or within a short period of time. Implementing the projects over the twenty year planning period will insure that funding sources will be available for each project. It is also important to note that the needs of each facility will be evaluated annually on a system-wide basis.

Funding sources include the State of Arizona; Federal Aviation Administration; other state and federal agencies (Forest Service and Park Service); local governmental agencies; and private funding sources such as the

airport sponsor (if the airport is owned by someone other than a public agency). Most government agencies cannot currently provide funding for private airport facility projects. The ADOT-Aeronautics Division presently has authority to own and operate only the Grand Canyon Park Airport. A change in the current state laws would be required to allow ADOT funding, management or ownership involvement in any of the recreational airport system facilities. The most critical need for ADOT involvement in the implementation of the system will be the development of the new or proposed airfields which may not have local sponsorship readily available. Many local municipal agencies do not have the available funding to sponsor and develop a recreational airport facility.

### **Recommended Recreational Airport Sites**

The original goals of the study were to select ten existing airfields and five new sites that could be developed with recreational airport and camping facilities. The original list of existing airports consisted of approximately 26 facilities. The final list of recommended airfields to be included in the Recreational Airports System Plan includes 12 existing facilities and 4 potential sites. Two potential sites, Big Lake and Greer Lake, both located in Apache County, were eliminated primarily due to the elevation of the sites. Recommended sites are listed in Table 2-3 and depicted on the Recreational System Map (Figure 2-1)

**TABLE 2-3  
RECOMMENDED RECREATIONAL  
AIRPORT SITES**

<b><u>Recommended Existing Airports</u></b>	<b><u>Location County</u></b>
Grand Canyon Caverns Airport	Yavapai
Grand Canyon Park Airport	Coconino
Grapevine Airport	Gila
Marble Canyon Airport	Coconino
Martinez Lake Airport	Yuma
Payson Airport	Gila
Pearce Ferry Airport	Mohave
Pleasant Valley Airport	Gila
Sedona Airport	Yavapai
Temple Bar Airport	Mohave
Yolo Ranch Airport	Yavapai
White Mountain Lake Airport	Navajo
<b><u>Recommended Proposed Airport Sites</u></b>	<b><u>Location County</u></b>
Alamo Lake Site	LaPaz
Kinnickinnick Lake	Coconino
Mormon Lake Site	Coconino
Sprucedale Ranch	Greenlee

The original list of potential locations with prime recreational activities, but no airport facilities, included approximately 13 different sites. It was anticipated that each one of the original listed sites could have several alternative locations for an airport. A primary consideration for each potential site was providing an attractive location to camp and take advantage of the local recreational activity, while being able to meet established safety criteria related to airport operations.

Additions or deletions of existing and potential sites will likely be made on an on-going basis as the Recreational Airport System Plan is implemented. The program should retain the flexibility to adjust development priorities as interests and needs change.

## **Previous Planning Studies**

Airport system planning efforts for Secondary, Native American and Emerging Rural Airports have been conducted by ADOT in recent years and addressed the needs of many airports located in remote areas of Arizona. A strategic analysis for these airports included a rating of each airport's access to recreation areas. A "high" rating was given to areas with significant recreational facilities in the vicinity (national, state or private recreation areas). Among the twelve existing airports included in the Recreational Airport System, three were previously evaluated; three of the four potential airport sites were also evaluated.

<b><u>Existing Airports</u></b>	<b><u>Access to Recreational Area</u></b>
Marble Canyon	"High"
Pearce Ferry	"High"
Temple Bar	"High"
<b><u>Potential Sites</u></b>	<b><u>Access to Recreational Area</u></b>
Alamo Lake	"High"
Sprucedale	"High"
Grapevine/Roosevelt Lake	"High"

The three potential airport sites were included among the ten highest rated Emerging Rural Airport sites in Arizona. The three existing airports included in the Secondary System of Airports each received "High" rating for Access to Recreation Areas and Overall Strategic Location.



# RECREATIONAL AIRPORT SYSTEM

ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

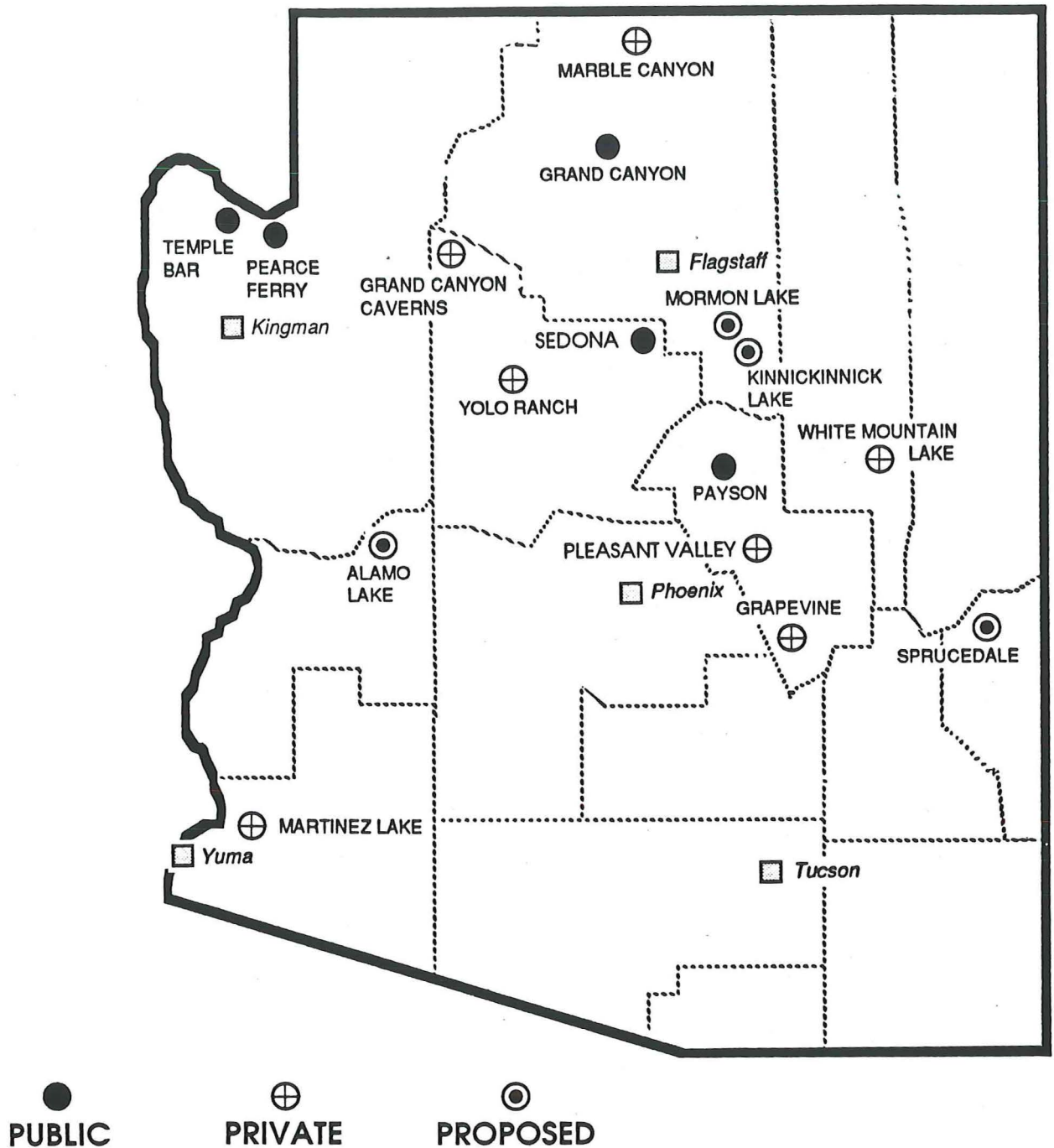


Figure 2-1

Among the recommendations of the Secondary Airport Special Study were two items addressing recreation:

1. Promote the concept of recreation airports within the secondary system (i.e. those primarily serving recreation areas and purposes). This promotion will emphasize the different criteria that will need to be applied to determine eligibility and priority of such airports.
2. ADOT should coordinate efforts with Arizona State Parks, Arizona State Land Department, Department of Commerce, and other concerned agencies to share information regarding emerging airport sites. Of particular concern should be the identification, sponsorship, development and operation of these airports.

Source: (CASP Special Study - Volume I Secondary Airports; Volume III Emerging Rural Airports, Carter Associates, November, 1988)

### **Initial System Implementation**

A primary focus during the initial phases of system implementation will be to identify two or three existing sites and one new site for initial development. These "prototype facilities" will provide valuable information regarding the actual issues experienced during initial implementation. In effect, the early part of the first five-year planning period, will serve as a test period. The results of this initial effort should be well documented and serve as a primary reference in the ongoing implementation of the system. Detailed discussions of these "prototype facilities" are discussed in the Recommendations section of this report.

The needs of users will also likely become more refined as the system is implemented. Once basic facilities and services become available, more will be known about the unique requirements and user needs of each particular site. Specific improvements may be warranted on an individual basis in order to best meet those needs. Specific recommendations regarding system implementation will be provided in Chapter Four.

# **Chapter Three**

## **Recreational Airport System Development Plans**



## CHAPTER THREE

### RECREATIONAL AIRPORT SYSTEM DEVELOPMENT PLANS

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#### Overview

This section of the study will take a closer look at each airport and potential site, providing specific plans and cost estimates as well as preparing an overall schedule for development of the facilities within the system. The final plan will consist of a staged development program that will extend over a twenty year period. The development program will be divided into two, five-year periods and one, ten-year period. A schedule for development will also be prepared which will maximize the use of available funding.

The program prioritizes the developments for both individual airports and proposed sites. Table 3-1 outlines the complete capital program. The total system cost is approximately \$8,160,400 based on 1991 dollars. The development costs associated with each individual site are presented in Appendix B.

The costs of improvements at existing airports focused primarily on providing basic camping facilities and other improvements related to accommodating a new group of users. The cost of developing new airport facilities accounts for a large portion of the overall system costs. Although there are only four potential sites identified, the costs associated with these

account for roughly one-half of the total system development cost. The cost of developing new sites include items such as land acquisition (lease or conveyance costs from federal agencies), airfield development costs, utilities, camping facilities, and additional specialized planning requirements such as environmental studies.

The figures used for all development items throughout the planning period are expressed in 1991 dollars and (except where noted) include 25 percent overhead for administration, engineering and contingencies. ADOT will be able to convert the 1991 based figures by adjusting for subsequent inflation for future implementation of the plan. The interim change in the United States Consumer Price Index (USCPI) provides a mechanism through the following formula to yield a multiplier ratio:

$$\frac{X}{137.9} = Y$$

$$\begin{array}{rcl} X & = & \text{USCPI in any given future year} \\ 137.9 & = & \text{USCPI in 1991 (1982-1984=100)} \\ Y & = & \text{Conversion Factor} \end{array}$$

**TABLE 3-1**

**ARIZONA RECREATIONAL AIRPORTS SYSTEM STUDY**  
**•Arizona Department Of Transportation•**

**20-YEAR CAPITAL IMPROVEMENT PLAN**  
**PHASE I (1993 TO 1997)**

<u>Year</u>	<u>Airport</u>	<u>Project</u>	<u>Estimated Cost</u>
1993	Sedona Airport	Campsite Only	\$ 131,750
1994	Grapevine Airport	Campsite	166,000
1995	Alamo Lake (new)	Airport & Campsite	891,200
1996	Payson Airport	Campsite Only	88,750
1997	Pleasant Valley Air Strip	Airport & Campsite	699,700
	Martinez Lake Airport	Campsite Only	<u>96,700</u>
<b>TOTAL ESTIMATED COST PHASE I</b>			<b><u>\$2,074,100</u></b>

**PHASE II (1998 TO 2002)**

<u>Airport</u>	<u>Project</u>	<u>Estimated Cost</u>
Grand Canyon Airport	Campsite & Apron	\$ 218,700
Temple Bar Airport	Campsite Only	130,600
Pearce Ferry Airport	Campsite, Taxiway, & Apron	82,400
Kinnickinnick Lake (new)	Airfield & Campsite	<u>1,329,700</u>
<b>TOTAL ESTIMATED COST PHASE II</b>		<b><u>\$1,761,400</u></b>

**PHASE III (2003 TO 2012)**

<u>Airport</u>	<u>Project</u>	<u>Estimated Cost</u>
Marble Canyon	Campsite & Apron	\$ 143,700
Yolo Ranch	Campsite & Apron	131,200
Grand Canyon Caverns	Airfield & Campsite	799,900
Sprucedale Ranch (new)	Airfield & Campsite	1,860,900
White Mountain Lake	Campsite, Taxiway, & Apron	174,000
Mormon Lake (new)	Airfield & Campsite	<u>1,215,200</u>
<b>TOTAL ESTIMATED COST PHASE III</b>		<b><u>\$4,324,900</u></b>
<b>TOTAL ALL PHASES</b>		<b><u>\$8,160,400</u></b>



Dividing the future CPI by the 1991 CPI provides a conversion factor (Y) which, in turn, is multiplied by the 1991-based cost estimates to provide appropriate amounts in any future re-evaluation. Only national CPI data should be used, as local or regional indices may vary. Consumer Price Index information may be obtained from the United States Bureau of Labor Statistics and the economic research units of some banks and councils of governments.

The airport or potential site development schedules have been established based on their economic, physical and political feasibility. Table 3-1 depicts the existing airfields and proposed sites in the recommended order of development. The new airfield projects, in most cases, have been allocated two program years for full development of the proposed project.

The Recreational Airport System Plan includes 16 sites that were identified in the preliminary site evaluation phase of the study. It is the recommendation of this plan that three individual airport sites, one in each category of Existing Rural, New Rural, and Community be developed in the first phase of implementation as "prototype facilities". These three sites are discussed below.

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### **The Initial Implementation Of The Recreational Airport System Will Include "Prototype Facilities"**

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#### **Rural Existing Airport (Grapevine Airport)**

Grapevine Airport, located at Roosevelt Lake in Gila County, is identified as the first Rural Existing Recreational Airport to be developed within the system. The airport is currently owned by the U.S. Forest Service in the Tonto National Forest. Recreational opportunities include water related activities such as fishing and boating. Hiking is also available in this scenic area. The airport is compatible with the Tonto National Forest's current Land-Use Plan. The Forest Service has expressed their desire to see Grapevine Airport reopened to the public. Existing site

conditions appear to provide adequate security for aviation-use only facilities. Construction of a camping facility would be cost effective and is estimated to cost approximately \$166,000. Operation and access to this facility will be provided twelve months of the year.

#### **Rural New Airport (Alamo Lake Airport)**

Alamo Lake State Park, located off of State Route 60 in La Paz County, is identified as the site for the first Rural New Recreational Airport developed within the system. The state park located at Alamo Lake provides an opportunity for inter-agency cooperation between state departments for operation and maintenance of a state-owned facility. This facility also represents the longest season for usage when compared with the other new Rural New Airport sites in the system. Recreational activities at Alamo Lake include fishing, boating, and hiking. The park currently has well developed RV and camping sites around the lake. The park and the lake provide an excellent attraction for recreational pilots. The proposed location for development would also allow for an airfield which is isolated from surface access. Development costs for the airport and campsite are estimated at \$891,200. The operation and access to this facility will be maintained twelve months of the year.

#### **Community Airport (Sedona Airport)**

Sedona Airport, located in Yavapai County, is identified as the first Community Recreational Airport to be developed within the system. The airport is located within the Sedona city limits and is owned by Yavapai County. The recreational activities include easy access to the communities of Sedona and Oak Creek Canyon, camping, shopping, golfing, and sightseeing. Existing facilities at the airport include a motel and car rental facilities. The sponsor has expressed their interest in developing a camping facility on the airport which would be used exclusively by aviation patrons. The facility would have access to airport water,



sewer and electricity. The construction cost of the camping facility is estimated at \$131,750. Operation and access to this facility will be provided twelve months of the year.

## **ECONOMIC IMPACT OF RECREATIONAL AIRPORT**

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The economic and social impacts related to individual aviation projects in Arizona are important factors in the decision-making process within the overall airport system. This section of the study evaluated the estimated number of users each airport would have once the camping facilities were in place, the estimated cost for providing these facilities, and the economic impact for each airport area and the state as a whole. The recreational/camping facilities are anticipated to draw aircraft owners and pilots to the facility from the more populated areas of Arizona as well as from other states such as California, Utah and New Mexico. The development of an effective marketing program will be an important step in promoting the new system to potential users both within Arizona and across the country.

The level of economic impact related to the development of a Recreational Airport System will be directly related to the number of facilities that are available. The ability to support these facilities will be directly related to the level of utilization on an individual site and system-wide basis. By creating a system of recreational airport facilities, the objective should be to encourage a high level of utilization and therefore, significant economic impacts across the state. For this reason, it is important to facilitate the development of the total system as soon as practical.

There is an economic multiplier effect which results from every tourist dollar spent within the area and the state of Arizona. As a result, the total impact on the economy reaches beyond the direct dollars spent during a vacation trip. To measure the effect of the direct and indirect visitor dollar, the consultant first developed a profile of a representative fly-in trip for each of the Community and Rural airports

(Tables 3-2 and 3-3). For the profile, a destination airfield was selected, an airport of departure, a specific aircraft type and size that might be expected to use the camping facility, and a typical group of users. The total trip expense was estimated in order to determine the number of dollars spent from the visit. The multiplier for trip expenses and development costs was estimated to be approximately 3.0 times the initial dollar spent. This means that every dollar spent for goods and services will stimulate an initial or direct dollars' worth of economic activity, and will cycle through the economy approximately 3.0 times, before being depleted by "leakage", which is money leaving the local or state economy through taxes and purchases outside the state. The economic multiplier effect is depicted in Figure 3-1.

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### **The Annual Economic Impact Of The System Is Estimated To Be \$18.3 Million Annually**

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The estimated economic impact projected in this study is based upon the implementation of the complete system of recreational airfields. As the recommended facilities are developed, the economic impacts will increase accordingly. The annual economic impact will begin small and grow as the facilities are developed and promoted both locally and nationally to the aviation community. The study team determined that this impact analysis should take into account the completed system in order to evaluate the ultimate economic impact. Table 3-4 summarizes the economic impacts associated with the complete recreational airports system. The system-wide annual economic impact is estimated to be \$18.3 million after five years, as depicted in Figure 3-2.

### **Development Funding Sources**

Funding for recreational use facilities and improvements or the development of a new airport with recreational facilities poses some of the most important challenges of this program. At government-owned facilities obtaining local matching funds is a primary concern. Existing legislation allows state funding of approved projects up



# ECONOMIC MULTIPLIER

ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

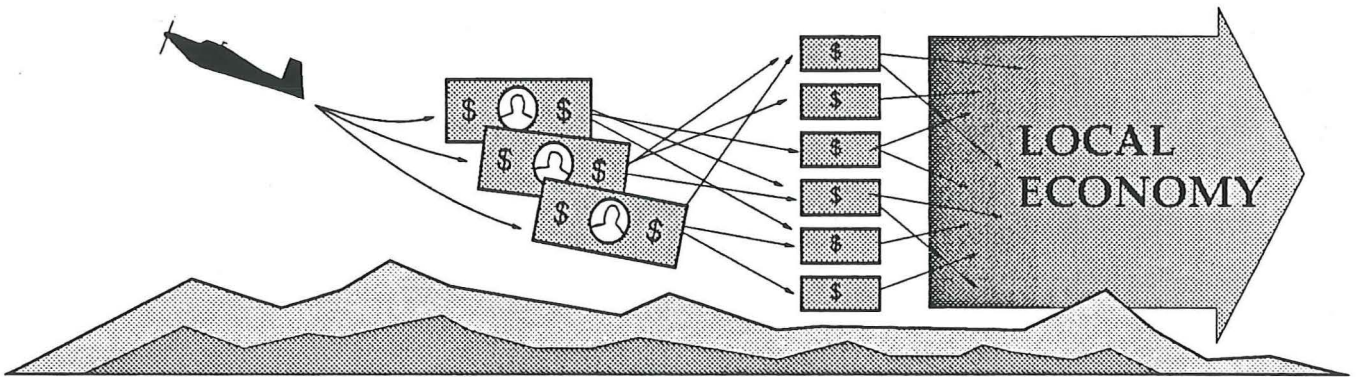


Figure 3-1

**TABLE 3-2**

**Flying Camping Trip Profile  
User Profile (Community)**

Aircraft:	Cessna 172
Passengers:	Pilot, Wife and Child
Airport Departure:	Rialto Municipal Airport
Destination:	Payson Airport, Payson, Arizona
Air Miles:	Approximately 300 Miles
Hours Flying Time:	2 Hours, 30 Minutes
Fuel Consumption:	21 Gallons, One Way
Fuel Costs:	\$1.95 per gallon, Total \$41.00
Length of Stay:	3 Days, 2 Nights
Hotel/Camp Site Fee:	\$40.00 per night, Total \$80.00
Food and Misc. Supplies:	\$43.00 per person, per day

Total Food & Miscellaneous Cost, \$323.00, Estimated on 2.5 days

Cost Summary:	Aircraft Fuel	\$ 41.00
	Camping Fee	80.00
	Food & Supplies	323.00
	Miscellaneous	<u>60.00</u>
	<b>Total</b>	<b>\$504.00</b>

**Estimated Expenditure Per Person** \$168.00

**ECONOMIC IMPACT - COMMUNITY**

<u>Airport</u>	<u>Users</u>		<u>Impact</u>	
	<u>1st Year</u>	<u>5th Year</u>	<u>1st Year</u>	<u>5th Year</u>
Grand Canyon Park	1,800	4,500	\$ 907,000	\$2,268,000
Sedona	2,100	5,200	1,058,000	2,620,000
Payson	2,000	3,900	1,008,000	1,965,000
Pleasant Valley	500	1,500	252,000	756,000
<b>Total</b>	<b>6,400</b>	<b>15,100</b>	<b>\$3,225,000</b>	<b>\$7,609,000</b>
<b>Average</b>	<b>1,600</b>	<b>3,775</b>	<b>\$ 806,000</b>	<b>\$1,902,000</b>
 <b>Total Income</b>	 <b>\$1,075,000</b>	 <b>\$ 2,536,000</b>		



TABLE 3-3

**Flying Camping Trip Profile**  
**User Profile (Rural) Airport**

Aircraft:	Cessna 172
Passengers:	Pilot, Wife and Child
Airport Departure:	Rialto Municipal Airport
Destination:	Grapevine Airport, Gila County, Arizona
Air Miles:	Approximately 300 Miles
Hours Flying Time:	2 Hours, 30 Minutes
Fuel Consumption:	21 Gallons, One Way
Fuel Costs:	\$1.95 per gallon, Total \$41.00
Length of Stay:	3 Days, 2 Nights
Camp Site Fee:	\$18.00 per night, Total \$36.00
Food and Misc. Supplies:	\$25.00 per person, per day

Total Food & Miscellaneous Costs, \$187.00, Estimated on 2.5 days

Cost Summary:	Aircraft Fuel	\$ 41.00
	Camping Fee	36.00
	Food & Supplies	187.00
	Miscellaneous	<u>35.00</u>
	<b>Total</b>	<b>\$299.00</b>

**Estimated Expenditure Per Person** \$100.00

**ECONOMIC IMPACT - RURAL**

<u>Airport</u>	<u>Users</u>		<u>Impact</u>	
	<u>1st Year</u>	<u>5th Year</u>	<u>1st Year</u>	<u>5th Year</u>
Marble Canyon	880	1,800	\$ 264,000	\$540,000
Pearce Ferry	900	2,400	270,000	720,000
Temple Bar	2,400	5,500	720,000	1,650,000
Grand Canyon Caverns	570	1,500	216,000	570,000
Yolo Ranch	500	1,500	150,000	570,000
White Mountain Lake	475	1,200	143,000	360,000
Grapevine	2,100	4,500	630,000	1,350,000
Martinez Lake	3,000	6,000	900,000	1,800,000
Alamo Lake	1,400	3,700	420,000	1,110,000
Mormon Lake	600	1,300	180,000	390,000
Kinnickinnick	850	3,000	255,000	900,000
Sprucedale	420	2,500	126,000	750,000
<b>Total</b>	<b>14,095</b>	<b>34,900</b>	<b>\$4,274,000</b>	<b>\$10,710,000</b>
<b>Average</b>	<b>1,175</b>	<b>2,908</b>	<b>\$ 356,000</b>	<b>\$ 893,000</b>
 Total Income	 \$1,409,000	 \$3,490,000		

to an amount equal to 90 percent of the total project cost.

Where matching funds are not readily available, it is possible that the legislation or guidelines for state funding be modified to include funding levels of 100 percent of the project cost. This would only be necessary in cases where the system might not provide an adequate return for the local investment. The state would have to first determine if the project was in the best interest of the state and that the only possibility of developing the facilities would be through 100 percent funding by ADOT. Another situation that might require total project funding by the state would be when another state agency owns or operates the airport facility. In this case, 100 percent ADOT funding may be the only way the project could be developed.

Some of the preferred airports for recreational camping facilities, as determined in the study, are privately owned. At the present time, state laws do not allow the state to financially participate in privately-owned facilities, thus ADOT can not legally grant monies to cover any share of the facility development. Some of the more desirable airports recommended for the system are privately owned and operated. The consultant's discussions with potential owners suggest that there would not be adequate revenues to provide the local share of any development project, let alone, cover the total cost of providing camping facilities.

Several options for legally transmitting funds to the private sector for development of the recreational camping facilities might be as follows:

- Transferring ownership of the land area requiring new facilities to the state. A long-term lease-back arrangement could be established to give the airport control and management of the camping facility.
- Same as above, only with an actual sale of the land to the state.
- The state would lease the camping site for the amortization period of the improvement that would be funded. At the termination of the lease, the

improvements would become the property of the land owner.

- A local municipality or county agency could acquire either the entire airport and surrounding land area or just the camping site where the new facilities would be constructed. This creates public ownership which is recognized by ADOT as a legitimate means of providing grants for the development of aviation facilities using state funding.

As with all the above alternative funding options, it must be remembered that in any case, current legislation does not allow funding for either private parties or for camping facilities. Under any circumstance, legislation does not allow funding for privately owned airports.

At the present time, there are no ADOT funds budgeted for recreational camping facilities at airports. Based upon the estimated development cost of the Recreational Airport System, funds should be added to the ADOT budget for fiscal year 1993 and beyond, to meet the funding needs of these new aviation facilities.

All user fees should be designated to return the monies collected to the sponsor for offsetting the operation and maintenance costs of the facility. This would also provide a possible source of funding for future projects at other airports.

The Recreational Airport System Plan also provides for the development of entirely new recreational airport facilities. In order for a new facility to be funded by the state through ADOT, it must be a publicly-owned airport and open to the public. There are several ways this can be accomplished.

- A state, county, or local municipality, with the authority, could acquire the property and solicit the state for funding the airport as well as the camping site facilities.
- The state ADOT Aeronautics Division would acquire, either through a long-term lease or by acquisition, the property to develop an airfield with camping facilities. In this case, the Aeronautics Division would need the authority to not only acquire the land, but to build and operate the recreational



# SYSTEM ECONOMIC IMPACTS

## ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

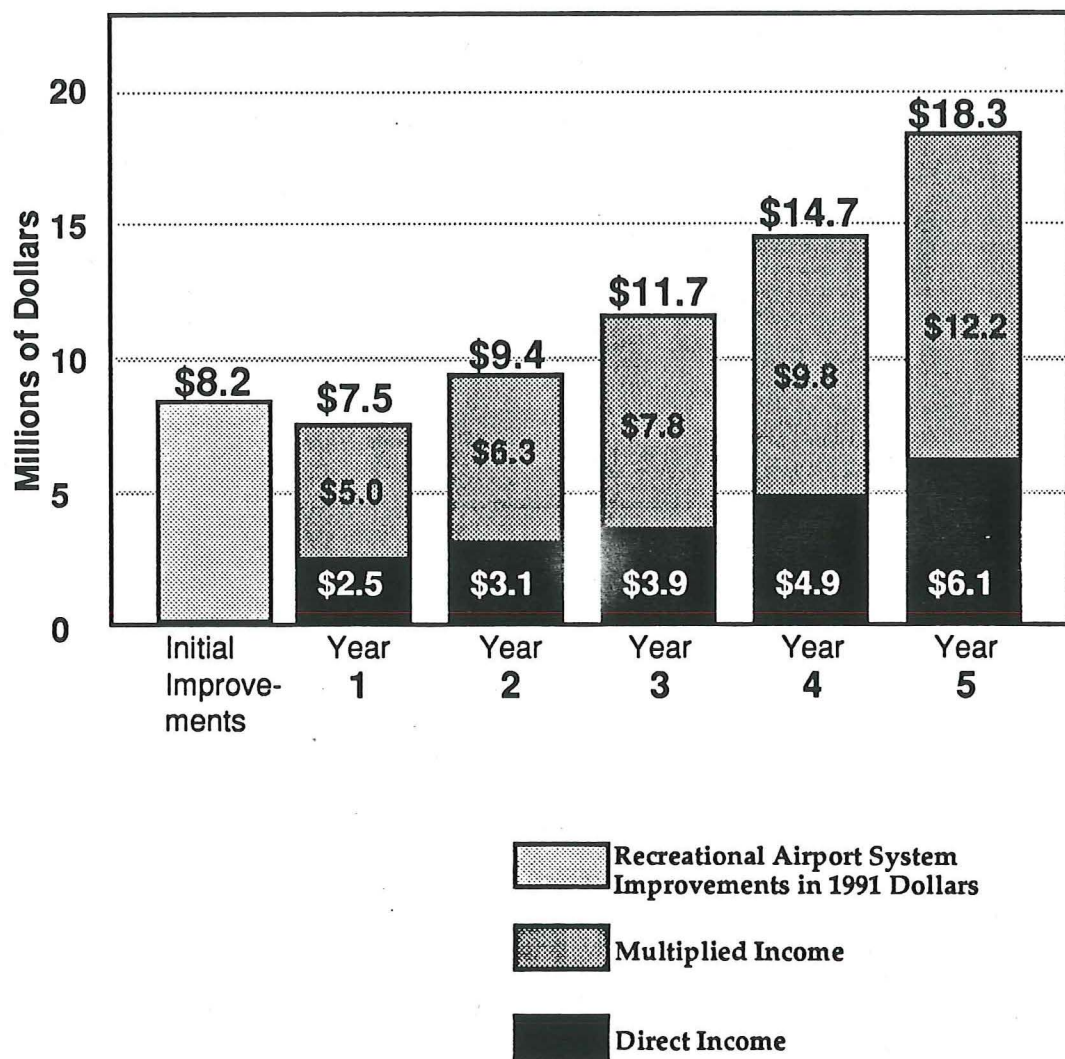


Figure 3-2

**TABLE 3-4****ARIZONA RECREATIONAL AIRPORTS SYSTEM PLAN****ECONOMIC IMPACTS - ALL AIRPORTS****Estimated Development Cost**

Total Rural Airports	\$7,021,500
Total Community Airports	\$1,138,900
Total Airports	\$8,160,400
Average Annual Cost	\$ 410,000

**Estimated Annual Income****1st Year****5th Year**

Total Rural Airports	\$1,409,000	\$3,490,000
Total Community Airports	<u>1,075,000</u>	<u>2,536,000</u>
Total All Airports	\$2,484,000	\$6,026,000

**Estimated Annual Income (3.0 multiplier)**

Total Rural Airports	\$4,274,000	\$10,710,000
Total Community Airports	\$3,225,000	\$ 7,609,000
Total All Airport	\$7,499,000	\$18,339,000
Average Per Airport	\$ 468,690	\$ 1,144,937



airport. Existing legislation only allows ADOT to own and operate the Grand Canyon Park Airport.

Over the years, several state agencies have found themselves operating an airport to serve the individual needs of the agency. For example, the Division of Corrections is currently operating a landing strip at one of their facilities.

It is the recommendation of the Recreational Airport System Plan that draft legislation be developed for the State of Arizona legislature, authorizing a state agency to acquire land on which they can develop a new airport facility. Authority to operate an airport facility could be vested in a number of state agencies including State Parks, DOT, Department of Corrections, and Department of Lands. The legislation should also have within it the expanded authority to fund aviation recreation/camping facilities on airports they own and operate as well as airports owned by other governmental agencies within Arizona.

## **Arizona State Parks Funding Programs**

The Arizona State Parks Board is the state agency responsible for overseeing several grant programs which are intended to enhance the state's natural areas and recreational opportunities. The program which is funded through the Arizona State Parks Board Heritage Fund, has seven specific areas of emphasis. For recreational airports, the program directed to improving regional, local, or state parks could provide a source of funding for camping and recreational facilities. Since camping facilities are not currently eligible for airport funding, the use of recreational oriented funding program may offer a reasonable alternative, or at least a supplemental funding source.

Under the State Parks Board, approximately \$3.5 million per year is funded for regional, local, state parks for recreation and open space. The Arizona Outdoor Recreation Coordinating Commission (AOLRCC), a citizen body appointed by the Governor, will administer the matching with responsibility for reviewing and approving projects. As with

most public grant programs, competition for these funds are extremely strong. However, by focusing on camping facilities and established camping areas which can be identified as local, regional, or state parks, the funding requirements for each potential project on an individual basis should be comparable to other similar park projects.

The program provides guidelines for project eligibility, matching requirements, application evaluation and approval. Eligible applicants include incorporated municipalities, counties, and state agencies. The program also contains specific requirements on compliance, operation and maintenance, handicapped access, and site inspections. A number of considerations including design, financial, environmental, management and administrative elements are included in the overall rating of each project.

The Statewide Comprehensive Outdoor Recreation Plan, completed in 1989, will be used by AORCC as a guide when evaluating projects. In order for recreational airport projects to effectively compete with projects identified in the Outdoor Recreation Plan, the needs of recreational airports should be incorporated into future updates of the plan. As a interim step, ADOT-Aeronautics and Implementation Committee for the Recreational Airport System Plan should meet with the AORCC to present findings of this study and express an interest in identifying development of recreational airport camping facilities as legitimate park areas suitable for funding. Similarly, maintaining a continuous level of inter-agency coordination is particularly important with the State Parks Board in order to promote this recreational concept.

## **Airport Liability Insurance Coverage**

Airport liability insurance was discussed in the early stages of the study as possibly one of the main stumbling blocks in the development of the total system of recreational airports. Many small airports expressed an interest in participating in the system, but were not



able to provide the necessary liability insurance. Many small airports currently accept the risk and do not have the necessary insurance coverage. If they were to participate in the new recreational airports system, they would be required to obtain and maintain adequate coverage to protect themselves as well as hold the state harmless. Many small airports have found it almost impossible to purchase reasonably priced liability insurance coverage.

The American Association of Airport Executives (AAAE), fearing the loss of insurance coverage for all small airports, due either to the skyrocketing costs or just the fact that it might be unavailable, created a packaged insurance program for small airports. The consultant contacted the underwriter for this program and requested preliminary cost estimates for participating airports. It appears that the cost could vary with each facility, but that it was estimated to cost between \$1,000 and \$1,500 per airfield.

Although this expense is relatively low, it is still beyond the means of many small airports without the ability of recouping this added cost. It is possible that ADOT could fund the program through the individual airports or through a blanket policy covering all recreational facilities in the system.

One method for accomplishing the above would be for ADOT to purchase a blanket insurance policy to cover all participating airfields that could not otherwise afford to acquire the insurance or in those cases where insurance was not available. Another possibility to participation in the program would be for ADOT to make the coverage available to each airfield and provide the necessary funding through the established grant process. This is another element which would require new legislation in order to allow ADOT to provide the necessary funding for these insurance costs.

### **Record Keeping & Fee Collection**

Airports with on-field management or having a Fixed Based Operator (FBO) which collects tie-down fees and sells fuel,

should be able to oversee the additional activity associated with fly-in campers. It would also be possible for most of these facilities to take reservations and assign camping spaces.

Where no on-site management exists, collecting fees and providing the maintenance of the facility could be difficult. It is possible that a local business or residence may be willing to perform these functions for a modest fee. At some public campgrounds, volunteer or forest service workers provide the same services that would be needed for the recreational airfields. Another approach may be for ADOT to provide the service through nearby offices or through the Aeronautics Division office in Phoenix. Local sponsors, if available, will also have ideas as to the methods of collecting fees and possibly providing a reservation system, if needed. Voluntary drop boxes have also been used effectively at many camping or RV parks. The sponsor or responsible party would still be required to empty the drop-box containers.

Another option would be to have a local club, civic organization, or an aviation group sponsor a specific recreational airport. The airfield would be adopted by the group and they would provide the financial support for the operation and possibly the volunteer labor to provide the periodic maintenance.

The diverse geographic and organizational conditions associated with the operation of these airports will likely require that a variety of solutions are utilized to accomplish the system plan's goals of local sponsorship, operation and maintenance. The ability to remain flexible will be an important element in the successful implementation of the program.

### **Fee Structure**

It will be important to establish proper fees for the use of camping facilities at each airfield. Fees that are too high will discourage use of the facilities; fees that are too low will not provide adequate funds for the operation and maintenance of the facilities. RV parks around the state vary in their charges, depending on the cost of



providing the facility and the expense of maintaining the site. Actual fees range from a low of \$6.00 to a high of \$22.00 per day.

In some cases, the fees will have to include the cost of collection as well as the cost of operating and maintaining the camping site. The State of Idaho uses voluntary fee collection at many of its recreational airports through the use of locked drop boxes. The distance from the airfield and camping site of the caretaker, will also play an important role in establishing the price of the overnight fee. Only local costs associated with developing the camping facility should be used in the fee structure. Those costs which ADOT covers should not be viewed as redeemable through the fee. ADOT funds are collected from aviation users within Arizona and should not be passed on again to the same people. It may be possible to add into the proposed fee an amount to help cover the cost of maintaining the entire airfield facility.

It should be noted that most airports in the state do not charge an airport landing fee. Fuel flowage fees and sometimes percentages of sales and services help to offset the cost of doing business.

## **Facility Maintenance**

It will be necessary for the recreational airport to have a local sponsor and an operator. These may not be the same agency or individual at each airport. As noted earlier, the sponsor could be the local county or a nearby town that assumes the responsibility for the facility. If they have the personnel to assume total responsibility for the airfield and its activity, it would not be necessary to provide additional support. In most cases however, this will not be typical. It may be practical for volunteers or nearby residents to be solicited to provide the necessary support. It is likely that the sponsor may have to provide some monetary support for providing the services. It is estimated that operation and maintenance costs will vary depending on the location of the facility, whether or not there is an on site FBO or management staff, size of the facility, and if maintenance will include both the airside and camping facilities. The annual

maintenance expense for the entire system is estimated at \$120,000.

Where local government agencies are not able to provide basic maintenance services through existing public works departments, it may be possible to solicit the aid of flying groups or clubs to provide the necessary manpower for regular clean-up and minor maintenance of the facility, as dictated by the level of use of the airfield. This could be structured similar to the highway clean-up program, where a specific company or group will take responsibility for a section of the roadway. Initial conversations with the Arizona Pilots Association (APA) and Experimental Aircraft Association (EAA) groups have been very positive in their support of this sponsorship. Similar support has been established in Oregon and Idaho and has proven to be very successful. Some airports have also been known to utilize prisoner labor from nearby jails or prisons; this approach is commonly used for highway litter patrols.

It has been recognized within the camping industry, that clean and well maintained sites will attract users. It also is known that just the opposite will occur if the site is not well maintained. The key to a well managed facility will be the local sponsor and the level of support provided. In those cases where ADOT may be involved in the ownership or sponsorship of an airport facility, it may be necessary for a similar local arrangement to be developed. To reduce the cost of operating the camping facility and/or airfield, it may be necessary to have the person or group responsible for the operation and maintenance located as close to the facility as possible.

Planning Advisory Committee and public meetings were held on November 5, 1991 to discuss the finding of working Paper #3 and other related study elements. Based on public and PAC comments, revisions on the working paper were made.

# **Chapter Four**

## **Recreational Airport System Plan - Implementation**



## **CHAPTER FOUR**

### **RECREATIONAL AIRPORTS SYSTEM PLAN - IMPLEMENTATION**

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#### **Overview**

Tourism and recreation are important and growing elements of Arizona's economy. The role of General Aviation is well established in Arizona, where long distances and vast areas of undeveloped wilderness separate populated areas and prime recreational sites. The light airplane offers an economical alternative for family recreational activities and provides a unique outdoor experience.

Arizona has more than 100 airports serving a wide variety of uses. The Recreational Airport System includes 12 existing airports and 4 proposed airports in remote or rural areas of the state. The Recreational Airport System is intended to supplement the existing State Aviation System Plan by specifically supporting airports located in, or near areas with high recreational value. The development of basic camping facilities at these airports is intended to better serve an existing use and support an activity capable of generating tremendous economic benefits to local communities and the entire state. Most recreational areas in the state can be reached within a 2 or 2 1/2 hour flight, providing a wide range of camping, fishing, hunting, boating, hiking, and cultural activities. This accessibility will

enable visitors to enjoy the ability to enjoy several different areas even on short trips.

The development of a Recreational Airport System addresses the needs of aviation, recreation, and tourism, and creates a program which maximizes the potential economic benefits associated with these activities. The Recreational Airport System provides a means for aviation to expand its contribution to the state's economy while promoting Arizona's natural attractions to residents and visitors alike.

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#### **The Recreational Airport User Will Spend Their Dollars On Locally Provided Goods And Services**

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#### **Economic Benefits**

The economic benefits associated with the Recreational Airport System are significant. It is estimated that a family of three on a typical weekend trip would spend approximately \$300 to \$500 within Arizona on aircraft fuel, camping fees, food & supplies, and miscellaneous expenses (shopping, boat, bicycle, or horse

rentals; golfing, etc.). Motel, restaurant, and rental car expenses may be included at sites with more developed recreational attractions. Most of these dollars will be spent at the local level with individuals and businesses providing goods and services.

Each dollar spent is typically rolled over into the local economy several times. An investment in recreational airport facilities provides a foundation for economic growth in many smaller communities throughout the state. This reuse of aviation funds benefits aviation and contributes to the economic diversity of the state. The development of the Recreational Airport System is planned over a twenty year period. The costs associated with new airport construction are higher than providing camping facilities at existing airports. In contrast, the costs associated with providing basic camping facilities at existing airports are relatively low.

The development of the Recreational Airport System is currently estimated at approximately \$8.2 million over a twenty year planning period. This cost divided over twenty years is approximately \$400,000 per year.

The level of users of the Recreational Airport System is expected to begin with an average of 1,175 people per site during the first year of operation of the system; this is expected to increase to nearly 3,000 visitors per site by the fifth year of operation. Overall, the number of users within the Recreational Airport System is projected at approximately 14,000 during the first year, increasing to nearly 35,000 annually by the fifth year. The ability to promote Arizona's recreational airports goes hand in hand with promoting Arizona's other attractions. Attracting both residents and new or returning visitors to Arizona's recreational airports will require a coordinated marketing effort which is able to maximize available resources.

The overall economic impacts of the Recreational Airport System are expected to begin at approximately \$7.5 million per year and increase to \$18.3 million over the first five years of operation based on a economic multiplier of actual dollars spent

by users. The increase in economic impacts is directly related to increased activity within the system, gained through marketing and promotional efforts. With an overall system development cost of approximately \$8.2 million, the economic impact associated with the fully developed system on an annual basis quickly exceeds the initial investment.

## **Sponsorship**

The development of the Recreational Airport System requires an effective program of funding and support. The fundamental requirement of the system is to ensure that individual airports have viable sponsorship. In some cases, local communities or private airport owners may be willing to assume the responsibility for operating and maintaining these airports. Other potential recreational airports may not have a viable alternative for local sponsorship. These remote areas may prove to be the most attractive locations for providing unique recreational opportunities. In these cases, providing sponsorship from outside the local area may be required. Although the recreational airports are basic facilities used by small aircraft, they do need to be operated and maintained in a safe manner for the general public. The Recreational Airport System Plan is an element of the continuous planning effort contained in the State Aviation System Plan (SASP) directed by the Arizona Department of Transportation, Aeronautics Division.

## **Environmental**

The Recreational Airport System provides an opportunity to combine general aviation and recreational activities unique to Arizona. The recreational airports will be basic facilities located in remote areas of the state. The accessibility to prime recreational areas including public forest or parklands was a primary consideration in selecting the sites. Of the sixteen sites included in the Recreational Airport System, twelve airports already exist and



many are used for aircraft camping. Improving basic camping or airfield facilities at these sites will be consistent with the natural setting of the immediate area. The four proposed airport sites are also located in areas with established recreational use. The scale of development associated with the new airports will be compatible with maintaining the integrity of the surrounding area. Protecting the scenic beauty of Arizona's back country is the essence of the Recreational Airport System. Indeed, it is the quality of the outdoor experience associated with these areas that makes the Recreational Airport System possible.

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### **A Primary Goal Of The Recreational Airport System Plan Is To Preserve The Natural Surroundings Of Each Site To The Greatest Extent Possible**

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Protecting natural habitat for fish and game is an essential ingredient in preserving and managing these areas so that future generations will be able to enjoy the culture, history, and scenic beauty of Arizona. The Recreational Airport System encourages the protection of the environment and minimizes the affects of development on the surrounding areas. The development associated with the recreational airports will be limited, in order to preserve the natural value of the surrounding area. At locations where airports currently exist, only basic improvements to airfield facilities are anticipated. New airfield facilities will be limited to basic runway and aircraft tie down areas. The addition of efficient, compact camping areas would result in minimal environmental impacts. Basic camping facilities will include tent sites, picnic tables, fire pits, and chemical toilets.

Many remote areas of the state are accessible only by foot, horseback or pack mule. The ability to provide aircraft access will enable more people to visit these areas without the expense or impact of new roadway construction.

## **Implementation Process**

The implementation of the Recreational Airport System Plan requires the examination of existing regulatory limitations regarding state participation in the sponsorship of airport facilities — either complete or partial sponsorship. This will be particularly important as efforts to encourage local involvement are undertaken. In addition to providing some financial assistance to many potential sponsors, ADOT will also need to work closely with the sponsors in order to ensure that the development of individual airport facilities follows a standard approach defined in the Recreational Airport System Plan. ADOT and the local sponsors will work jointly to improve the quality of airport facilities throughout the state. The ability of ADOT to facilitate the implementation and long-term enhancement of the Recreational Airport System would likely require a variety of efforts. Some of these may extend beyond the current authority of the department.

This program of development targets a specific type of airport and user. As a result, the continued operation of the system will require the involvement of a diverse group. The role of individual airport sponsors, local and county governments, airport users, and ADOT are relatively well defined. However, there is also a need to establish an effective relationship with the U.S. Forest Service who is responsible for managing lands within the National Forest System. Some sites identified in this study are located on these public lands. In most cases, the development of recreational airport facilities was not anticipated in the long-term planning of these areas and is not included in their formal planning process. However, this type of development may prove to be compatible with the overall transportation requirements within the National Forest System. It will be particularly important that ADOT and other involved parties have a role in this on-going planning process. The overall objective should be to focus on integrating the planning efforts for these areas in order to adequately address public needs. Other options which may involve



the development of small airstrips in extremely remote areas could be explored as an alternative to providing surface access. If desirable, these potential sites could be added to the Recreational Airport System to begin the process of programming development. It will be critical that all responsible agencies establish effective lines of communication and work together in providing for the recreational needs of a wide variety of users.

The implementation of the Recreational Airport System requires initial investment in airport and camping facilities. The improvements required for the 12 existing airports and 4 airport sites have been divided into three development phases. However, the economic benefits associated with the Recreational Airport System are directly related to the availability and use of facilities. An accelerated program of constructing campsites at existing airports combined with adding new airports may be considered as a means of providing a solid base from which to serve potential users.

It is anticipated that as the facilities are added and their availability is promoted, the levels of use will increase. The Recreational Airport System will contribute to the State's overall efforts to build and promote a diverse tourism base. Providing a system of recreational facilities for general aviation users is an extension of current efforts to attract visitors and their dollars to Arizona. As with the traditional recreational and tourist-oriented facilities, providing these facilities will benefit residents of Arizona while attracting out of state visitors. The majority of dollars spent by recreational airport users will be spent on goods and services provided locally. This local spending begins a process of positive economic growth as the dollars travel through the local economy.

### **Continuous Planning**

The long-term viability of the Recreational Airport System requires continuous planning and maintenance of the system. A system wide planning and

management approach provides the ability to monitor the progress of the overall system while addressing the needs of individual sites.

The review and evaluation process provides valuable operational information for each facility useful in guiding future decisions. The airports initially included in the Recreational Airport System are unique with their close relationship with prime recreational activities. It is likely, however, that as the Recreational Airport System is developed, interest from other potential airport owners (private, public, or native American) will increase. For this reason, an objective rating system should be established for applicant airports (or sites). Due to funding limitations, it may not be possible to accommodate all interested airports in the Recreational Airport System. As a result, it will be necessary to prioritize each airport or site in order to make an informed, objective decision.

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### **An Implementation Committee Should Be Established To Assist With Development Of The System**

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The development of rating system for new airports and potential airport sites should be established. The first phase of the Recreational Airport System Plan consisted of evaluating more than 60 airports and potential airport sites. The evaluation process included approximately 21 evaluation factors which were rated and weighed. However, for the purpose of prioritizing prospective airports and sites, a more concise set of primary criteria could be established.

- **Access to Recreational Areas**  
Highest rating for sites located directly adjacent to recreational areas such as State or National Parks with established recreational activities, services, etc. Sites near prime recreational areas would receive moderate ratings.
- **Quality of Recreational Experience**  
The quality of the recreational experience is related to its unique



elements, type of activity, and rustic setting.

- **Proximity to Other Recreational Airports**

Highest rating for sites more than 50 miles from another recreational airport. Broadening geographic coverage of the system would be a primary objective in expanding the system. Very unique recreational opportunities may be considered.

- **Safety (Existing Airports and Potential Sites)**

The airports/airport sites should safely accommodate light general aviation aircraft and average pilot capabilities. Clear approaches to the runway without significant terrain limitations are ideal.

- **Local Sponsorship Potential**

The ability to secure viable local sponsorship is an important consideration in adding new airports to the system. Options for state or joint state-local sponsorship may also be considered.

A simplified numerical rating system should be established to provide an initial evaluation of potential airports and sites. Following a preliminary review, a more detailed site evaluation should be conducted, using the criteria established in the first phase of this study. The preliminary site evaluation matrix is included in Appendix A.

New airports/sites could be evaluated and added to the Recreational Airport System based on funding availability. The overall objective should remain providing a system of recreational-oriented airports which best represent the unique recreational opportunities of Arizona. Some justification could be made for providing basic recreational facilities at virtually every airport in Arizona, however, given funding limitations and the specific objectives of the system, providing a quality recreational experience should be emphasized.

## Implementation Strategies

- Establish an Implementation Committee to assist the initial stages of system plan development.
- Establish a periodic federal and state inter-agency review to evaluate issues such as use of state and federal lands and facilities.
- Define role of the State in development and implementation of the Recreational Airport System.
- Create and implement a specific marketing and promotional program for Recreational Airports.
- Develop a Technical Assistance Program for local airport sponsors.

## Summary

The role of general aviation in promoting tourism in Arizona could be significant. The well known Arizona Highways program has been successful in attracting visitors and dollars to the state for many years. The Recreational Airport System offers the same potential of attracting a specific group of users to the state while also serving local residents. The success of the Recreational Airport System requires funding for initial development, strong and effective system management, a strong level of local participation and support, and an ability to market the facilities to potential users. For both residents and visitors alike, aviation offers a special opportunity to experience the best Arizona has to offer.

# **Appendices**



# **APPENDIX A**

# TOURIST ATTRACTIONS NEAR SELECTED ARIZONA AIRPORTS

## LOCATION

## TOURIST ATTRACTIONS/ACTIVITY

<b>Ajo</b>	Open-pit of the Phelps-Dodge Mine: Two bed-and-breakfast places, both in former homes of the mine's owners.
<b>Benson</b> ( <i>Undeveloped</i> )	Kartchner Caverns (opens 1992)
<b>Bisbee</b>	The underground Queen Mine Tour, Copper Queen Hotel, a formerly grand old building. Picturesque place with its homes built up and down the mountains, and turn-of-the-century Victorian buildings. Also has some remarkable bed-and-breakfast places decorated in 1900's styles.
<b>Bullhead City</b>	A short-ride from the casinos at Laughlin, Nevada.
<b>Camp Verde</b>	Fort Verde, Montezuma's Castle.
<b>Casa Grande</b>	Casa Grande National Monument.
<b>Clifton-Morenci</b>	The Coronado Trail.
<b>Coolidge</b>	Camping on airport. (Desert Terrain)
<b>Cottonwood</b>	Tuzigoot National Monument, Jerome (historic mining town)
<b>Douglas</b>	Gadsden Hotel, another former grand building. It has massive marble columns with gold leaf decorations, Tiffany stained glass mural, bar with 200 cattle brands burned into the walls, Mexican border is very near.
<b>Fort Huachuca/ Sierra Vista</b>	The museum on Fort Huachuca, Ramsey Canyon (a birdwatcher's paradise), Coronado National Monument.
<b>Globe</b>	The Apache Trail and Tonto National Monument, Besh-ba-gowah Indian Ruins, Pinal Peak, Gila County Historical Museum, San Carlos Lake.
<b>Grand Canyon</b>	Grand Canyon National Park's South Rim, hiking trails, mule rides to Phantom Ranch at the bottom of the canyon, Tusayan Ruins, Desert View watchtower.
<b>Holbrook</b>	Petrified Forest/Painted Desert National Park.
<b>Kayenta</b>	Gateway to Monument Valley. Not too far from Navajo National Monument with Betatakin and Keet Seel ruins.
<b>Lake Havasu City</b>	The London Bridge, Topock Gorge (by boat or canoe), Havasu National Wildlife Refuge.
<b>Kingman</b>	Mohave County Museum (with a room devoted to Andy Devine memorabilia), near ghost towns of Oatman, Goldroad, Mineral Park, Chloride, etc.
<b>Marble Canyon</b>	Scenery, Echo Cliffs, Vermilion Cliff, Lees Ferry.



## LOCATION

## TOURIST ATTRACTIONS/ACTIVITY

Nogales	International border, shopping in Mexico, Pimeria Alta Historical Museum. Up the road; Tubac, historical presidio and now also an artists colony with passels of owner-operated shops; Patagonia with Museum of the Horse, Tubac Country Club (golf), ghost towns, Patagonia-Sonoita Creek Sanctuary (more birds for watching), Cave of the Bells, Onyx Cave, Patagonia Lake State Park.
Page	Lake Powell, boat trips to Rainbow Bridge, Glen Canyon Dam (Carl Hayden Visitor Center), John Wesley Powell Museum, camping, swimming, fishing, hiking, etc. Jeep trips to the Corkscrew.
Parker	Colorado River Tribes, Museum, Parker Dam, near to Quartzsite, an RV site in the wintertime, Alamo Lake State Park. (Wayside AP)
Payson	Mogollon Rim, Zane Grey's Cabin Site, Kohl's Ranch, Tonto Natural Bridge, Mazatzal Wilderness.
Phoenix Sky Harbor	Snowbirds, Tourism, & Conventions
Prescott	Sharlot Hall Museum, Courthouse Plaza, Whiskey Row, restored Victorian buildings, Smoki Museum, Phippen Museum of Western Art, Granite Dells, Lynx Lake, Watson lake.
Safford	Aravaipa Canyon, Galiuro Wilderness, Mount Graham Drive (with camp grounds, lakes), Museum of Anthropology.
Sedona	Red Rock County. Oak Creek Canyon, Slide Rock State Park, shops galore, lots of hiking trails, many tours; jeeps, trolleys, hot air balloons, etc., vortexes (New Age people to these "energy centers" with pyramids and crystals and get "recharged"). Near to Jerome, the historic old mining town with its see-forever views of Verde Valley.
Show Low	Outdoorsy place in the cool White Mountains. Fishing, camping, hiking, hunting, lots of nearby lakes and streams. Mogollon Rim Overlook and Nature Trail, General Crook Trail, White Mountain Apache Indian Reservation with Sunrise ski and fishing lodge. Pine Top and Lakeside.
Springerville	Another White Mountain town. Lakes and streams for fishing. Also great hiking, camping, hunting. Lyman Lake State Park has a small buffalo herd. Coronado Trail begins here.
St. Johns	Lyman Lake, Fishing and Camping.
Tempe Bar	A favorite spot on Lake Mead, the largest artificial lake in the U.S., Temple Bar Resort is Arizona's main development on the lake, has motel, RV park, restaurant, boat rentals (including houseboats), watersports, Hoover Dam, Lake Mead National Recreation Area.
Tombstone	"The town too tough to die" has such authentic Old West places as Boot Hill Cemetery, Tombstone Courthouse State Historic Park, OK Corral, Crystal Palace Saloon, Bird Cage Theater, Goodenough Silver Mine tours, Silver Nugget Museum, Rose Tree Inn with world's largest rose bush.

## LOCATION

## TOURIST ATTRACTIONS/ACTIVITY

<b>Tucson</b>	Snowbirds, Tourism, and Conventions; Saquaro National park, Old Tucson,, Sonoran Desert Museum, Sabino Canyon.
<b>Whiteriver</b>	Fort Apache Indian Reservation with Sunrise ski and fishing resort, White Mountains, lakes, streams, Ft. Apache Museum, Kinishba Ruins.
<b>Wickenburg</b>	Once known as the Dude Ranch Capitol, still has some guest ranches, tennis, and golf resorts. Desert Caballeros Western Museum and the Old Jail Tree. Nearby; ghost towns of Stanton, Octave, Weaver, Joshua Tree Parkway, Hassayampa Nature Conservancy.
<b>Willcox</b>	Rex Allen Museum. Nearby; Ft. Bowie National Historic Site, Amerind Foundation Indian Museum, Cochise Stronghold Canyon, Coronado National Forest, campgrounds, and trails.
<b>Williams</b>	Gateway to the Grand Canyon. The place where you catch Grand Canyon Railroad with its old steam locomotives. White Horse and Kaibab Lakes.
<b>Window Rock</b>	Capital of the Navajo Nation. Capitol building is fashioned after a traditional Navajo hogan, eight sides, door opens to the east.
<b>Winslow</b>	Nearby; Homolovi Runs State Park. Little Painted Desert County Park. Hood Park on the banks of Clear Creek Reservoir for swimming, boating and fishing.
<b>Yuma</b>	Yuma Territorial Prison and Museum, Quechen Indian Museum, Century House Museum, US Army Quartermaster Depot, Peanut Patch, Date Farm. Nearby; San Luis (on Mexican border), Sand Dunes, Cabeza Prieta National Wildlife Refuge, Imperial Wildlife Refuge, Kofa National Wildlife Refuge (has Palm Canyon with rare stands of native palm trees).



## RECOMMENDED PRELIMINARY SITES

### EXISTING AIRPORTS

<u>Site</u>	<u>Name</u>	<u>Location</u>
A	Marble Canyon Airport	Coconino County
B	Grand Canyon Park Airport	Coconino County
C	Pearce Ferry Airport	Mohave County
D	Temple Bar Airport	Mohave County
E	Grand Canyon Caverns Airport	Yavapai County
F	Yolo Ranch Airfield	Yavapai County
G	Sedona Airport	Yavapai County
H	Payson Airport	Gila County
I	Mogollon Airport	Navajo County
J	White Mountain Lake Airfield	Navajo County
K	Grapevine Airport	Gila County
L	Martinez Airport	Yuma County

### PROPOSED AIRPORT SITES

<u>Site</u>	<u>Name</u>	<u>Location</u>
A	Alamo Lake Area	La Paz County
B	Mormon Lake Area	Coconino County
C	Kinnickinnick Lake Area	Coconino County
D	Sprucedale Ranch	Greenlee County
E	Big Lake Area	Apache County
F	Greer Lake Area	Apache County

# RECREATIONAL ACTIVITY

## ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

TYPES OF RECREATIONAL ACTIVITY	RANK	
	PAC	WORKSHOP
<input type="checkbox"/> Fishing	_____	_____
<input type="checkbox"/> Boating	_____	_____
<input type="checkbox"/> Golf and Tennis	_____	_____
<input type="checkbox"/> Hunting	_____	_____
<input type="checkbox"/> Swimming	_____	_____
<input type="checkbox"/> Hiking	_____	_____
<input type="checkbox"/> Sking	_____	_____
<input type="checkbox"/> Historic Sites	_____	_____
<input type="checkbox"/> Natural and Scenic Attractions	_____	_____
<input type="checkbox"/> Resorts	_____	_____
<input type="checkbox"/> Gambling	_____	_____
<input type="checkbox"/> Cultural and Educational Locales/Events	_____	_____
<input type="checkbox"/> River Rafting	_____	_____
<input type="checkbox"/> _____	_____	_____
<input type="checkbox"/> _____	_____	_____
<input type="checkbox"/> _____	_____	_____



# SITE SELECTION MATRIX

TABLE 3-A  
EXISTING SITES

ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

		•SITES•																					
•EVALUATION FACTORS	WEIGHT FACTOR	Marble Canyon		Grand Canyon		Pearce Ferry		Tempe Bar		G.C. Caverns		Yolo		Sedona		Payson		Mogollon Rim		White Mnts.		Grapevine	
			x		x		x		x		x		x		x		x		x		x		x
Noise	1	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	5	5
Water and Water Quality	3	5	15	5	15	5	15	5	15	5	15	4	12	5	15	5	15	5	15	4	12	5	15
Endangered Species	3	5	15	5	15	5	15	5	15	5	15	5	15	5	15	5	15	5	15	4	12	5	15
Social/Economic Impacts	2	4	8	5	10	5	10	5	10	5	10	4	8	5	10	5	10	3	6	4	8	5	10
Geology and Soils	2	4	8	5	10	4	8	5	10	3	6	5	10	4	8	5	10	5	10	5	10	5	10
Obstructions	3	3	9	5	15	4	12	5	15	5	15	3	9	5	15	5	15	5	15	5	15	5	15
Development Costs	5	4	20	3	15	5	25	5	25	1	5	4	20	3	15	5	25	4	20	4	20	5	25
Access (Vehicle)	3	5	15	5	15	5	15	5	15	5	15	4	12	5	15	5	15	5	15	5	15	5	15
Compatible Land Uses	3	5	15	5	15	5	15	5	15	5	8	5	15	4	12	5	15	3	9	3	9	5	15
Airspace Conflicts	3	4	12	4	12	4	12	5	15	5	15	5	15	5	15	5	15	5	15	5	15	5	15
Homesites	2	3	6	5	10	5	10	5	10	4	8	4	8	4	8	5	10	3	6	3	6	5	10
Utilities	2	5	10	4	8	1	2	5	10	5	10	4	8	4	8	5	10	5	10	5	10	3	6
Recreational Activity	5	4	20	5	25	5	25	5	25	4	20	4	20	5	25	3	15	4	20	5	25	5	25
Distance from Activity	5	5	25	4	20	2	10	5	25	3	15	5	25	3	15	2	10	4	20	4	20	3	15
Access to Activity	4	5	20	3	12	3	12	5	20	4	16	5	20	3	12	2	8	4	16	4	16	3	12
Sponsorship	4	4	16	5	20	5	20	5	20	5	20	4	16	5	20	5	20	4	16	4	16	3	12
<b>TOTAL SCORE</b>		69	218	73	222	68	211	80	250	69	205	70	218	70	213	77	213	68	212	68	213	72	220



# SITE SELECTION MATRIX

## ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

TABLE 3-B  
NEW SITES

		•SITES•											
		Alamo Lake		Mormon Lake		Kinnickinnick Lake		Spruce Lake		Big Lake		Greer	
•EVALUATION FACTORS	WEIGHT FACTOR		x		x		x		x		x		x
Noise	1	3	3	4	4	5	5	4	4	5	5	3	3
Water and Water Quality	3	4	12	3	9	4	12	4	12	4	12	3	9
Endangered Species	3	4	12	4	12	4	12	5	15	5	15	4	12
Historic and Architectural, Archaeological Resources	2	5	10	5	10	5	10	5	10	5	10	5	10
DOT Act Section 4(f)	1	4	4	4	4	4	4	5	5	4	4	4	4
Social/Economic Impacts	2	5	10	3	6	5	10	5	10	5	10	4	8
Geology and Soils	2	4	8	4	8	4	8	4	8	3	6	3	6
Obstructions	5	4	20	4	20	5	25	4	20	5	25	4	20
Construction Impacts	4	5	20	3	12	5	20	5	20	3	12	4	12
Development Costs	5	4	20	4	20	3	15	3	15	2	10	2	10
Access (Vehicle)	3	5	15	3	9	5	15	5	15	5	15	4	12
Compatible Land Uses	5	2	10	4	20	5	25	4	20	4	20	3	15
Airspace Conflicts	3	4	12	5	15	5	15	5	15	5	15	5	15
Homesites	2	5	10	4	8	5	10	5	10	5	10	5	10
Utilities	3	2	6	3	9	2	6	3	9	3	9	4	12
Recreational Activity	5	4	20	4	20	5	25	5	25	5	25	5	25
Distance from Activity	4	2	8	4	8	5	20	4	16	5	20	5	20
Estimated Annual Users	4	3	12	5	20	5	20	5	20	5	20	5	20
Sponsorship	5	3	15	1	5	2	10	3	15	3	15	2	10
<b>TOTAL SCORE</b>		<b>72</b>	<b>227</b>	<b>71</b>	<b>219</b>	<b>83</b>	<b>267</b>	<b>83</b>	<b>264</b>	<b>81</b>	<b>258</b>	<b>74</b>	<b>233</b>



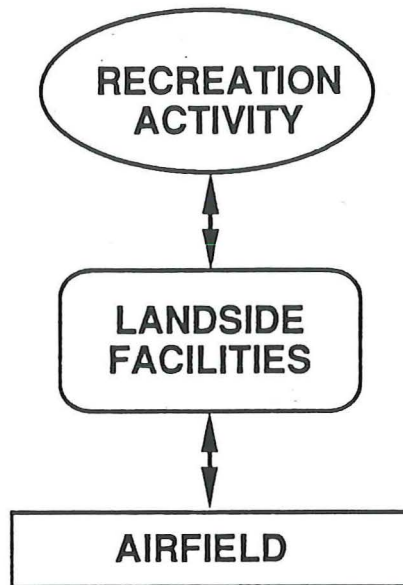
# SITE SELECTION MATRIX

ARIZONA RECREATIONAL AIRPORTS/AIRFIELDS SYSTEM PLAN

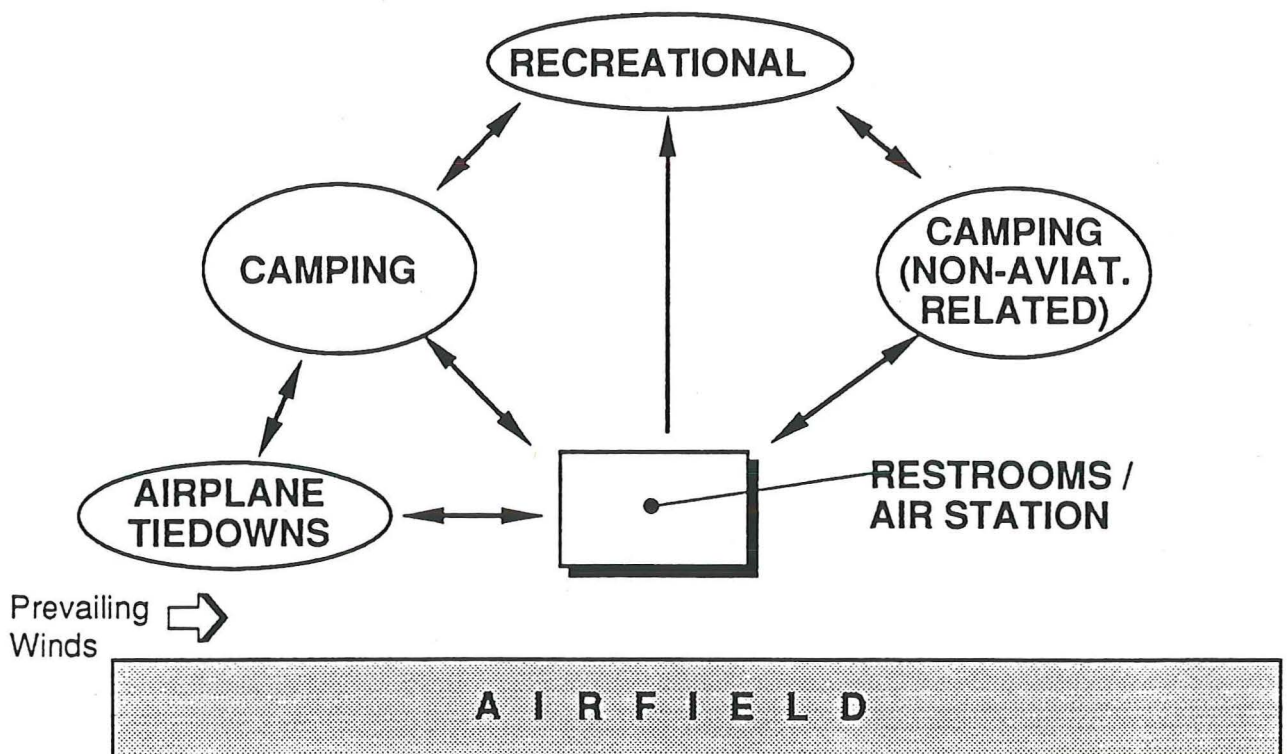
			SCORE	
	RANK	SITE	NET	WEIGHTED
EXISTING	1	Temple Bar Airport	80	250
	2	Grand Canyon Nat. Park Airport	73	222
	3	Grapevine Airport (closed)	72	220
	4	Marble Canyon Airport	69	218
	5	Yolo Ranch Airstrip	70	218
	6	White Mountain Lake Airfield	68	217
	7	Sedona Airport	70	213
	8	Payson Airport	72	213
	9	Mogollon Airfield	68	212
	10	Pearce Ferry Airfield	68	211
	11	Grand Canyon Caverns Airfield	69	205
NEW	1	Kinnickinnick Lake	83	267
	2	Sprucedale Ranch	83	264
	3	Big Lake Recreation Area	81	258
	4	Greer	74	233
	5	Alamo Lake	72	227
	6	Mormon Lake	71	219

# SITE DEVELOPMENT DIAGRAMS

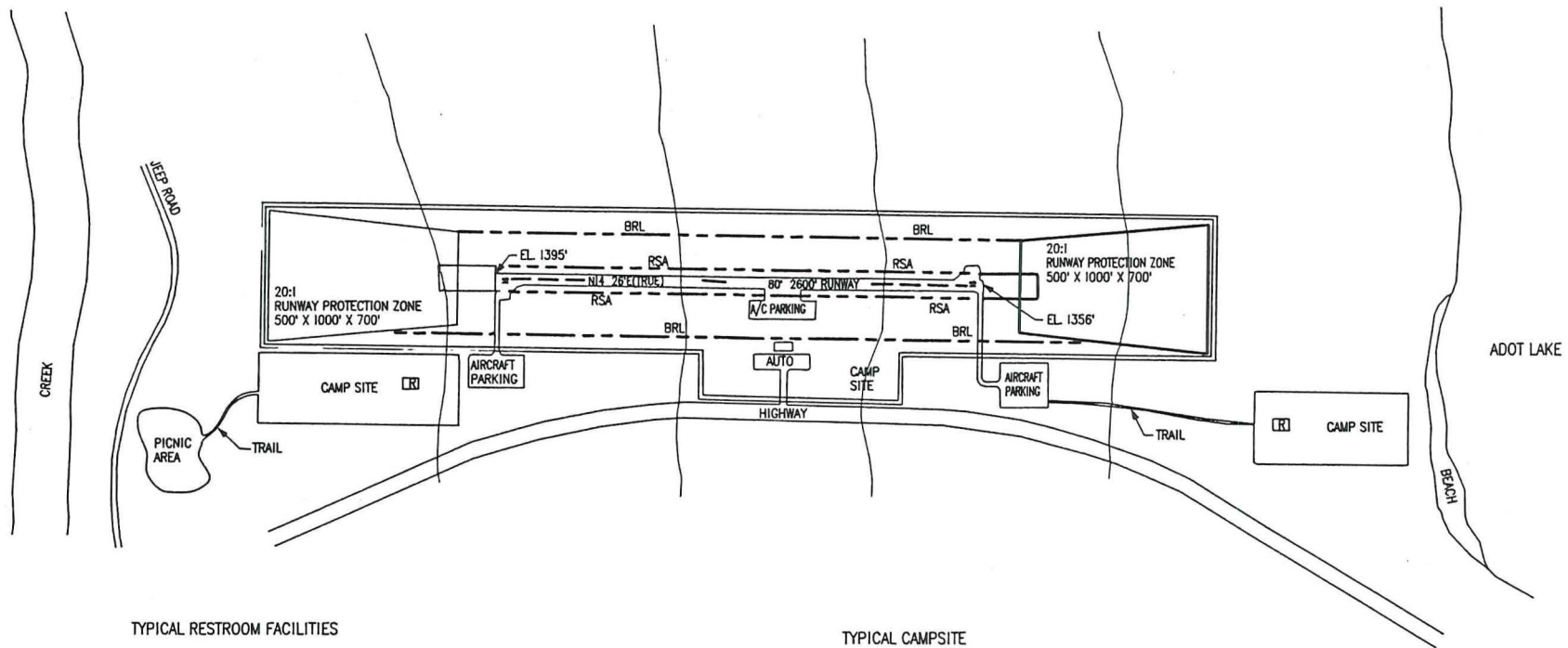
## I OVERALL RELATIONSHIP



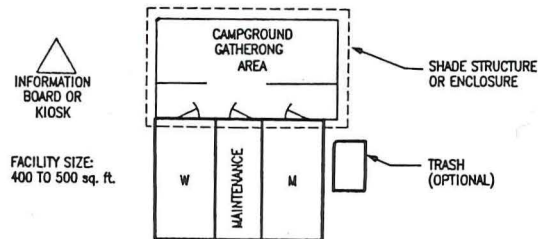
## II GENERALIZED PLAN



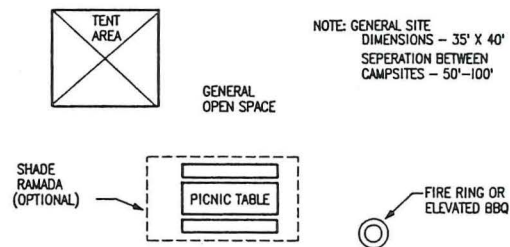




#### TYPICAL RESTROOM FACILITIES



#### TYPICAL CAMPSITE



MAGNETIC DECLINATION  
18 15' E  
(1986 VALUE)

0 300 600  
SCALE IN FEET



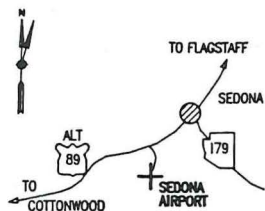
**ENGINEERING COMPANY**  
7776 Pointe Parkway West  
Suite 200  
Phoenix, Arizona 85044  
(602) 438-2200

# **APPENDIX B**



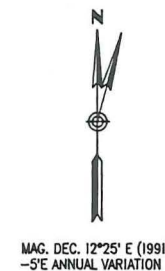
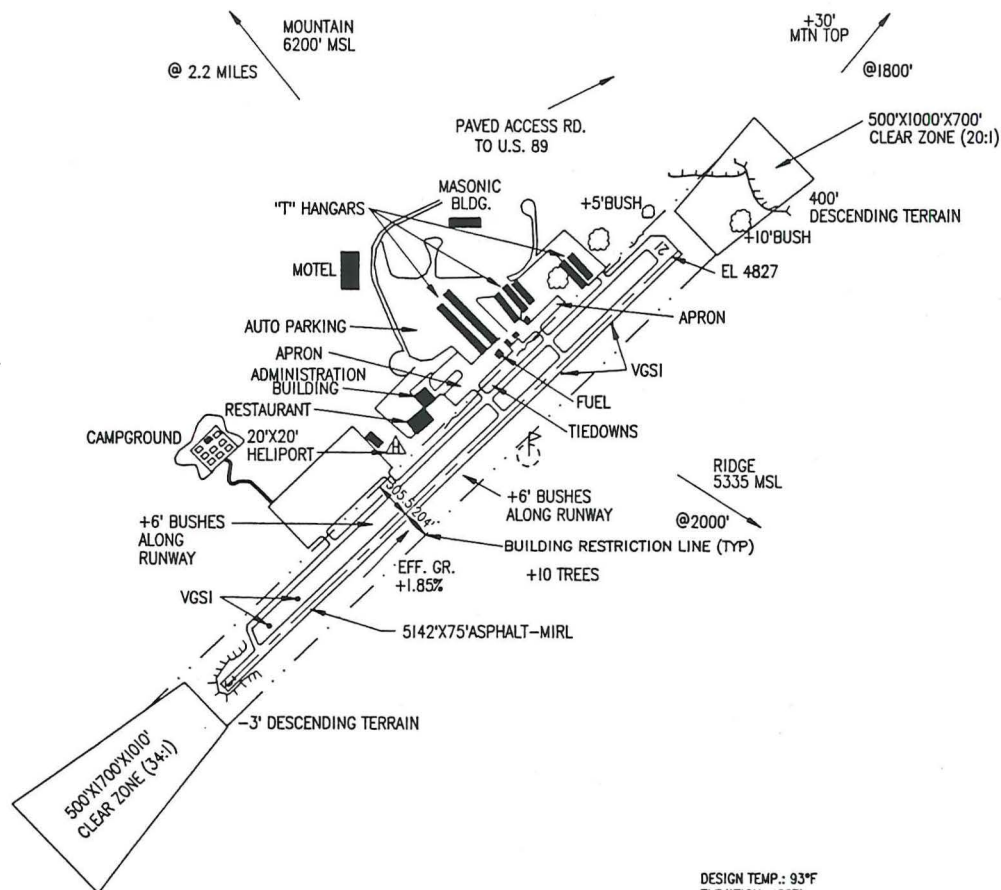
## **SEDONA AIRPORT**

<b>Location</b>	Sedona, Yavapai County
<b>Long./Lat.</b>	N34° 50'9"                      W111° 47'3"
<b>Owner</b>	Yavapai County
<b>Access</b>	State Route 179 within Sedona city limits.
<b>Elevation</b>	4,827' MSL
<b>Runway Length</b>	5,142'
<b>Runway Width</b>	75'
<b>Runway Surface</b>	Asphalt
<b>Runway Lights</b>	Medium Intensity Runway Lights
<b>Services</b>	Beacon, Wind Cone, Fuel, Unicom, NDB, Car Rental and Tie-downs.
<b>Recreational Activities</b>	Tourism within the community as well as resort type activities, including lodging etc. At the present time, there are a number of existing camp sites on the airport used by pilots. These are located adjacent to the terminal area.
<b>Distance to the Activities</b>	About one (1) mile from airport. Transportation is available.
<b>Obstructions to Airspace</b>	None, but mountains in the area require pilot proficiency.
<b>Environmental Impacts</b>	None anticipated.
<b>Site Construction</b>	Most of the airport lands are flat and have very little vegetation. There are many open areas available for camping sites.
<b>Utilities</b>	All utilities including water, sewer, and electricity appear to be available in the terminal area.
<b>Development Costs</b>	The estimated cost for developing the camping site is approximately \$130,000.
<b>Maintenance Costs</b>	The estimated cost for providing annual maintenance expense is approximately \$6,000.
<b>Airspace Conflicts</b>	None.
<b>Potential Sponsor</b>	Yavapai County
<b>Estimated Annual Users</b>	This is a year-around resort area. Users could initially range from 2,100 to 5,200 within 5 years.
<b>Overall Potential</b>	Excellent



AIRPORT LOCATION

REMARK  
AIRPORT ON 400' HIGH MESA  
TURBULENCE MAY BE EXPERIENCED IN VICINITY OF AIRPORT



NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 93°F  
ELEVATION: 4827'  
RUNWAY LENGTH: 5142'  
RUNWAY WIDTH: 75'  
RUNWAY SURFACE: ASPHALT  
OWNER: YAVAPAI COUNTY  
APPROACH CATEGORY "B"  
DESIGN GROUP II

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**SEDONA AIRPORT**  
SEDONA, ARIZONA



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200



## SEDONA AIRPORT

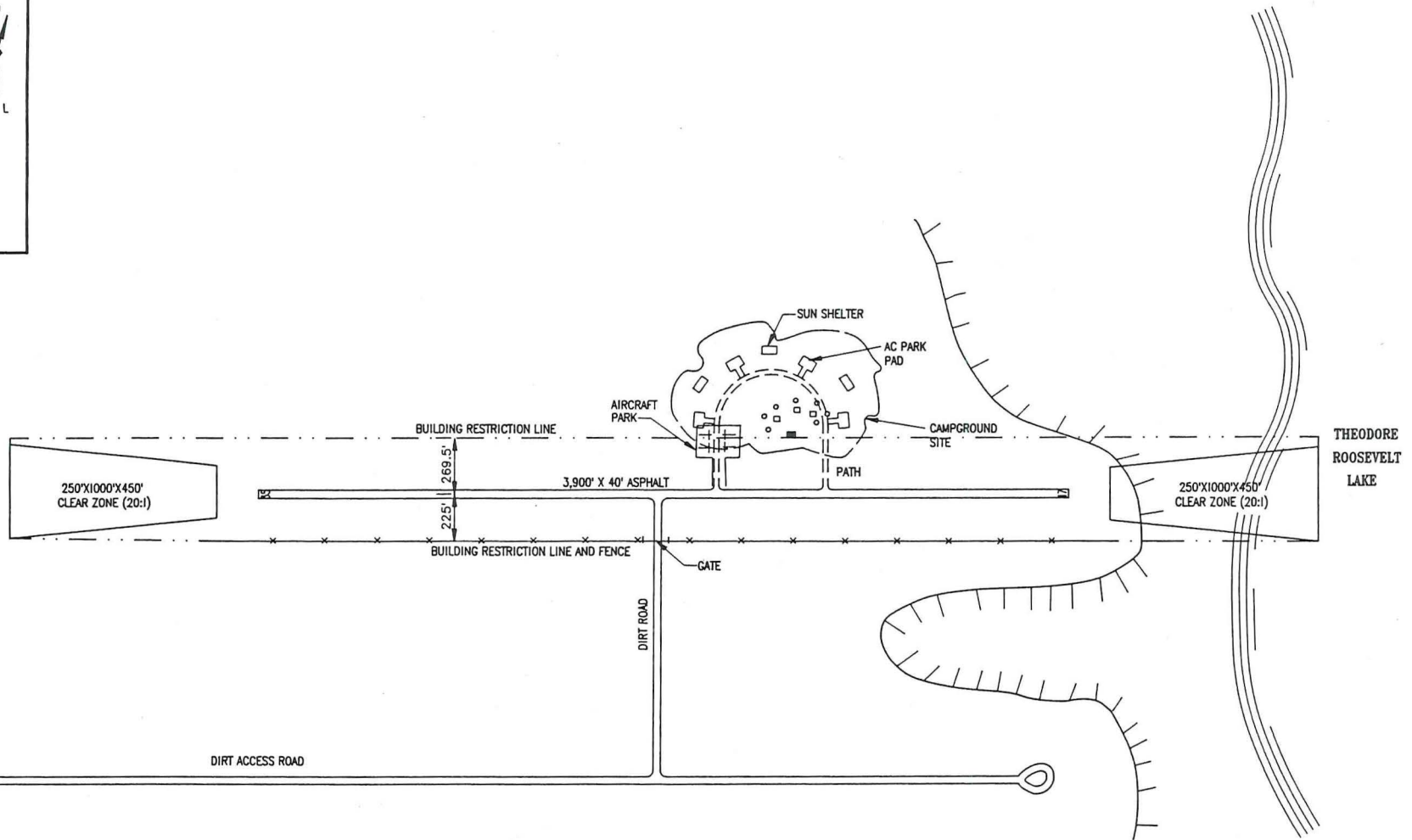
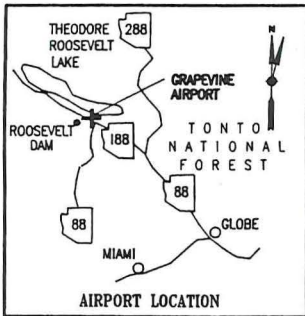
<b>A. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$ 6,000
	2. Camping Facilities	
	- Landscaping .....	\$ 8,000
	- Sun Shelters (3 @ \$4,000) .....	\$ 12,000
	- Tables (8 @ \$300) .....	\$ 2,400
	- Fire Pits (8 @ \$500) .....	<u>\$ 4,000</u>
	Subtotal .....	\$ 26,400
	3. Electrical .....	\$ 8,000
	4. Water (Existing) .....	\$ 18,000
	5. Sewer (Existing) .....	\$ 22,000
	6. Restroom/Shower Building .....	<u>\$ 25,000</u>
	Subtotal .....	\$105,400
	7. Contingency/Engineering (25%) .....	<u>\$ 26,350</u>
	<b>TOTAL A .....</b>	<b><u>\$131,750</u></b>

## **GRAPEVINE AIRPORT**

### **(Closed)**

<b>Location</b>	Roosevelt Lake, Gila County
<b>Long./Lat.</b>	N33° 38'30"                      W111° 3'30"
<b>Owner</b>	National Forest Service
<b>Access</b>	State Route 88 south of Roosevelt Dam
<b>Elevation</b>	2,361'
<b>Runway Length</b>	3,900'
<b>Runway Width</b>	40'
<b>Runway Surface</b>	Asphalt
<b>Runway Lights</b>	None
<b>Services</b>	None
<b>Recreational Activities</b>	Water related (fishing and boating), hiking, and scenic views.
<b>Distance to the Activities</b>	One (1) mile.
<b>Obstructions to Airspace</b>	None.
<b>Environmental Impacts</b>	Water, water quality and land use.
<b>Site Construction</b>	Good locations exist for development of camping sites. An area on the west side of the runway and near the north end, would provide the best views and security. The area is flat and would work well for this purpose.
<b>Utilities</b>	None.
<b>Development Costs</b>	Development costs for the camping site and airfield improvements are estimated at \$166,000.
<b>Maintenance Costs</b>	Annual cost estimates for maintaining the airfield as well as the camping facilities are estimated to be approximately \$12,000. Maintenance expense would include the entire airport facility.
<b>Airspace Conflicts</b>	None.
<b>Potential Sponsor</b>	National Forest Service or Gila County
<b>Estimated Annual Users</b>	Due to the close proximity to Phoenix and Tucson the chances of the actual use could be substantial. Initially 2,100 to 4,500 users within 5 years.
<b>Overall Potential</b>	Excellent.





NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

MAG. DEC. 12°26'E (1991)  
-5° E. ANNUAL VARIATION

GRAPEVINE AIRPORT (CLOSED)  
DESIGN TEMP.: 102.1°F  
ELEVATION: 2,361'  
RUNWAY LENGTH: 3,900'  
RUNWAY WIDTH: 40'  
RUNWAY SURFACE: COMPACTED DIRT  
OWNER: NATIONAL PARK SERVICE  
APPROACH CATEGORY "A"  
DESIGN GROUP I

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
GRAPEVINE AIRPORT  
GILA COUNTY, ARIZONA



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200

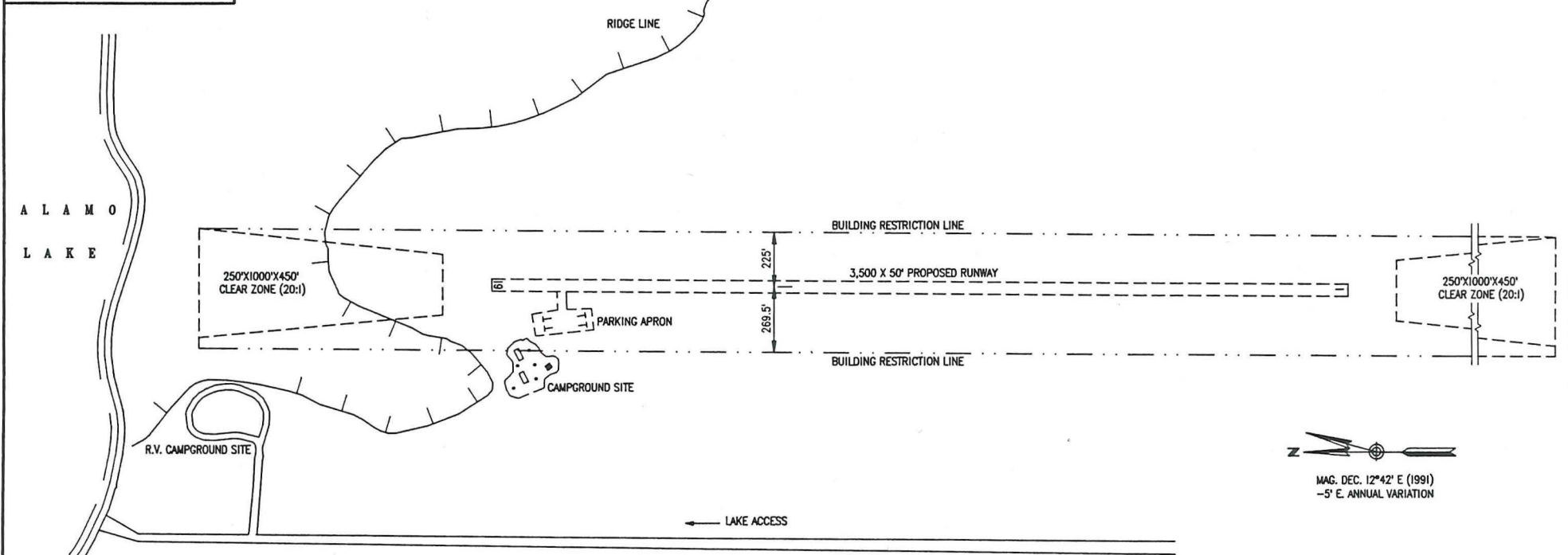
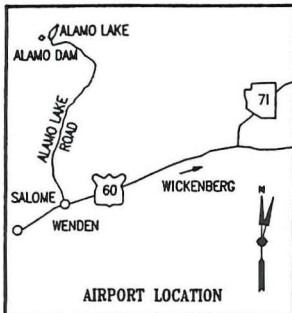
## GRAPEVINE AIRPORT

<b>A. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$ 9,000
	2. Camping Facilities	
	- Landscaping .....	\$ 3,000
	- Sun Shelters (3 @ \$4,000) .....	\$12,000
	- Tables (6 @ \$300) .....	\$ 1,800
	- Fire Pits (6 @ \$500) .....	<u>\$ 3,000</u>
	Subtotal .....	\$19,800
	3. Electrical (Existing) .....	\$10,000
	4. Water (Well) .....	\$10,000
	5. Sewer (Septic) .....	\$10,000
	6. Restroom/Shower Building .....	<u>\$20,000</u>
	Subtotal .....	\$78,800
	7. Contingency/Engineering (25%) .....	<u>\$19,700</u>
	<b>TOTAL A</b> .....	<b>\$98,500</b>
<b>B. Taxiway &amp; Apron</b>	1. Taxiway .....	\$ 6,000
	2. Apron .....	<u>\$36,000</u>
	Subtotal .....	\$42,000
	3. Contingency/Engineering (25 %) .....	<u>\$10,500</u>
	<b>TOTAL B</b> .....	<b>\$52,500</b>
<b>C. Land Contingency</b>	<b>TOTAL C</b> .....	<b>\$15,000</b>
	<b>TOTAL A, B &amp; C</b> .....	<b><u>\$166,000</u></b>



## ALAMO LAKE AREA

<b>General Location</b>	Alamo Lake, La Paz County
<b>Access</b>	State Route 60 and Alamo Lake Road
<b>Elevation</b>	Approximately 1,500' MSL
<b>Runway Length</b>	3,300' to 3,500' required.
<b>Recreational Activities</b>	Water related, such as boating and fishing. Off road vehicle riding is extremely popular in the area. Many state owned campgrounds are located along the south shore closer to the Alamo Dam. The potential airstrip would be at the opposite end of the lake from the Dam.
<b>Distance to the Activities</b>	Nearest access to the water would be approximately one (1) mile or less.
<b>Area Description</b>	The area around Alamo Lake is relatively flat with steep banks near the waters edge along much of the western half of the lake. The area along the northeast side of the lake is much flatter and less inhabited. The vegetation is of the low desert variety and there are no trees in the area. There is a restaurant and grocery store located approximately 3 miles from the water access point, at the Northeast end of the lake.
<b>Construction/Airfield &amp; Camping Site</b>	The estimated cost for developing an airfield and campground in the proposed location would be estimated at \$890,000.
<b>Maintenance Costs</b>	The estimated cost for maintaining this total facility on an annual basis is estimated at \$12,000, which includes the airfield.
<b>Airspace Conflicts</b>	The site falls under the Gladden 1 MOA which has an airspace restriction of 7,000' or 5,000' AGL between the hours of 0600 and 1900 Monday thru Friday. Just north of the proposed site is the Baghdad 1 MOA which has a restricted airspace similar to that of the Gladden 1 MOA.
<b>Obstructions to Airspace</b>	None
<b>Environmental Impacts</b>	Potential impacts will be endangered species (animals and plant life), land use, water, water quality, floodplains, and construction impacts. There are no known impacts that would restrict the airfield from being developed.
<b>Utilities</b>	Only electricity and possibly telephones are in this area.
<b>Potential Sponsor</b>	Arizona State Parks Department; La Paz County
<b>Estimated Annual Users</b>	The area already has well developed RV camping sites located around the Lake. The location is good and a possible draw for California pilots. Users could initially be between 1,400 to 3,700 within 5 years.
<b>Overall Potential</b>	Good to Excellent.



MAG. DEC. 12°42' E (1991)  
-5° E ANNUAL VARIATION

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**ALAMO LAKE**  
LA PAZ COUNTY, ARIZONA

NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 85°F  
ELEVATION: 1,500'  
RUNWAY LENGTH: 3,500'  
RUNWAY WIDTH: 50'  
RUNWAY SURFACE: ASPHALT  
APPROACH CATEGORY "A"  
DESIGN GROUP "F"



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200



## ALAMO LAKE STATE PARK (NEW)

### A. Airport Development (Airfield)

1. Clearing & Grubbing .....	\$ 30,000
2. Earthwork & Compaction (L.S.) (Runway, Taxiway & Apron) .....	\$150,000
3. Aggregate Base Course .....	\$147,000
4. Prime Coat .....	\$ 16,000
5. Asphaltic Concrete (3") .....	\$171,000
6. Striping (L.S.) .....	\$ 5,000
7. Access Road .....	<u>\$ 50,000</u>
Subtotal .....	\$569,000
8. Contingency/Engineering (25%) .....	\$142,200
<b>TOTAL A .....</b>	<b>\$711,200</b>
<b>Alternate A (Dirt Facility).....</b>	<b>\$466,000</b>

### B. Campsite Improvements

1. Clearing & Grubbing .....	\$ 6,000
2. Camping Facilities	
- Landscaping .....	\$ 8,000
- Sun Shelters (5 @ \$4,000) .....	\$20,000
- Tables (10 @ \$300) .....	\$ 3,000
- Fire Pits (10 @ \$500) .....	<u>\$ 5,000</u>
Subtotal .....	\$36,000
3. Electrical (Solar) .....	\$10,000
4. Water (Well) .....	\$10,000
5. Sewer (Septic) .....	\$10,000
6. Restroom (Portable) .....	<u>\$20,000</u>
Subtotal .....	\$92,000
7. Contingency/Engineering (25%) .....	<u>\$23,000</u>
<b>TOTAL B .....</b>	<b>\$115,000</b>

### C. Land Contingency

**TOTAL C .....** \$ 15,000

### D. Environmental/Site Planning

**TOTAL D .....** \$ 50,000

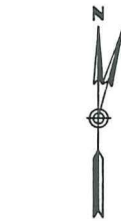
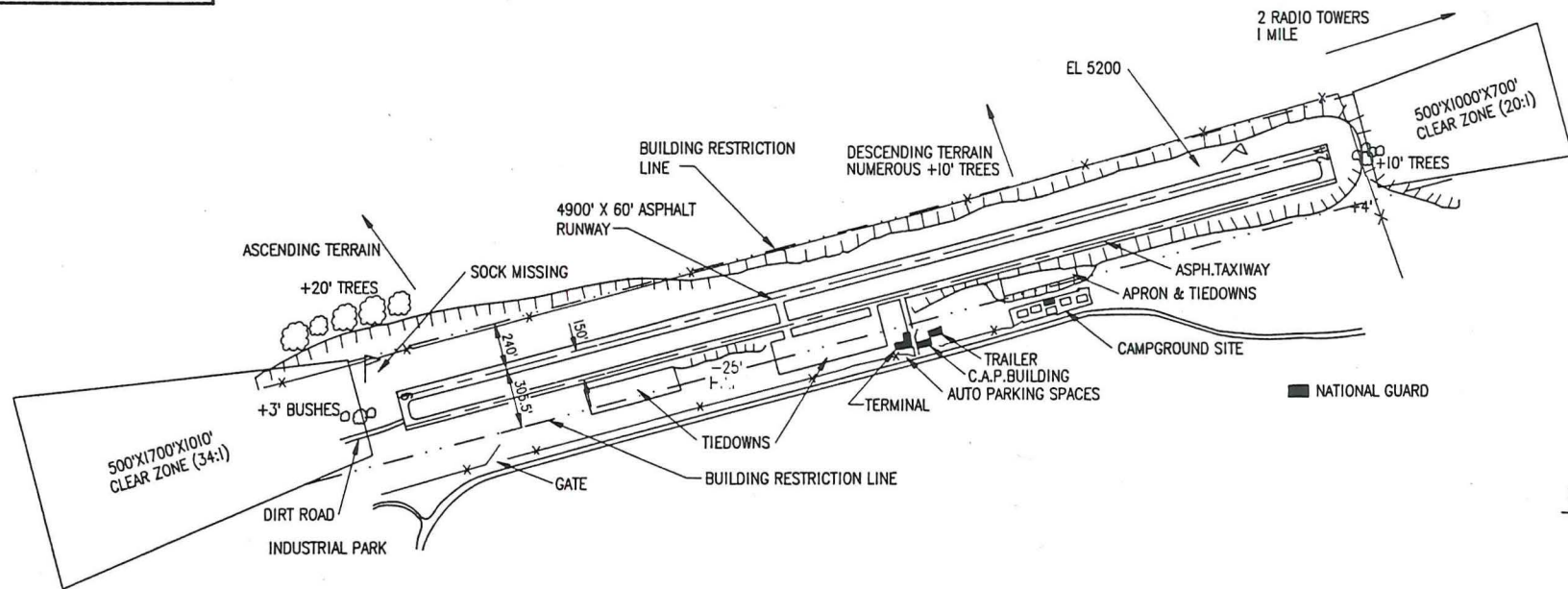
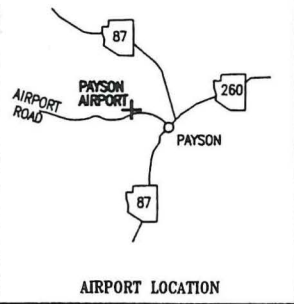
**TOTAL A, B, C & D .....** \$891,200

## PAYSON AIRPORT

<b>Location</b>	Payson, Gila County	
<b>Long./Lat.</b>	N34° 15'4"	W111° 20'3"
<b>Owner</b>	City of Payson	
<b>Access</b>	North of Payson on State Route 87	
<b>Elevation</b>	5,156' MSL	
<b>Runway Length</b>	4,910'	
<b>Runway Width</b>	60'	
<b>Runway Surface</b>	Asphalt	
<b>Runway Lights</b>	Medium Intensity	
<b>Services</b>	Fuel, maintenance, tie-downs, telephone, Unicom, and Food.	
<b>Recreational Activities</b>	Resort area, golf, camping on-site, cooler summer temperatures, and scenic views.	
<b>Distance to the Activities</b>	All within the immediate area. Surface transportation available.	
<b>Obstructions to Airspace</b>	None.	
<b>Environmental Impacts</b>	None anticipated.	
<b>Site Construction</b>	Several excellent locations exist on the airport for camping facilities. The best location is to the north of the terminal area. An existing aircraft overflow tie-down apron is located adjacent to the prospective camping area. The land area is flat with plenty of trees to shelter the grounds. Camping site can be developed adjacent to the aircraft tie-down area. The area is currently used often by pilots camping at the airport. There is a second, less desirable area to the south of the proposed terminal building site. In this area there are no permanent tie-downs, but it has been used before. The site is close to the airport industrial park.	
<b>Utilities</b>	Water, sewer and electrical services are within several hundred feet of either site.	
<b>Development Costs</b>	The development of the north side camping site is estimated to cost approximately \$90,000. The cost for developing south side camping sites is \$160,000 which includes a taxiway and aircraft parking area.	
<b>Maintenance Costs</b>	The annual maintenance cost for either the north and south side camping area is approximately \$3,000.	

<b>Airspace Conflicts</b>	None.
<b>Potential Sponsor</b>	City of Payson
<b>Estimated Annual Users</b>	It is possible that there could initially be between 2,000 and 3,900 users per year at this location within 5 years.
<b>Overall Potential</b>	The potential for this recreational airport is very good on the site to the north of the terminal building. Fair to Poor on the south side.





MAG. DEC. 12°09'E (1991)  
-5'E ANNUAL VARIATION

NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**PAYSON AIRPORT**  
PAYSON, ARIZONA

DESIGN TEMP.: 90°F  
ELEVATION: 5200' MSL  
RUNWAY LENGTH: 4900'  
RUNWAY WIDTH: 60'  
RUNWAY SURFACE: ASPHALT  
OWNERS: TOWN OF PAYSON  
APPROACH CATEGORY "B"  
DESIGN GROUP II



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200

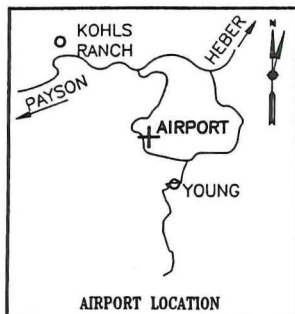
## PAYSON AIRPORT

<b>A. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$ 6,000
	2. Camping Facilities	
	- Landscaping .....	\$ 5,000
	- Sun Shelters (2 units) .....	\$ 8,000
	- Tables (5 units @ \$300) .....	\$ 1,500
	- Fire Pits (5 units @ \$300) .....	<u>\$ 2,500</u>
	Subtotal .....	\$17,000
	3. Electrical .....	\$ 6,000
	4. Water (Existing) .....	\$ 7,000
	5. Sewer (Septic) .....	\$10,000
	6. Restroom/Shower Building .....	<u>\$25,000</u>
	Subtotal .....	\$71,000
	7. Contingency/Engineering (25%) .....	<u>\$17,750</u>
	<b>TOTAL A .....</b>	<b><u>\$88,750</u></b>

# PLEASANT VALLEY INTERNATIONAL AIRPORT

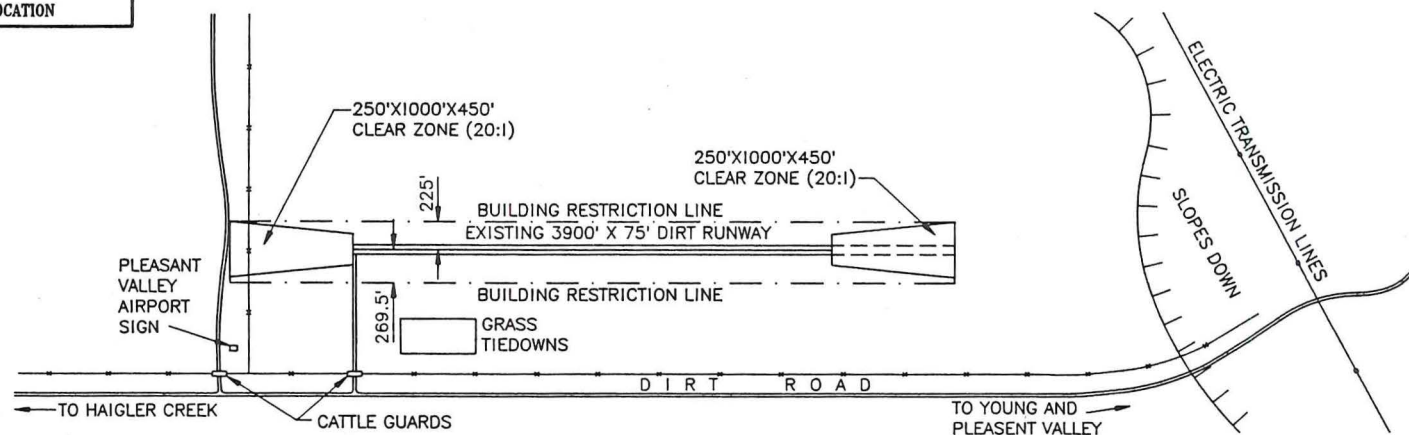
<b>Location</b>	North of Young, Gila County
<b>Long./Lat.</b>	110° 56' 30"                      34° 9' 00"
<b>Owner</b>	U.S. Department of Agriculture
<b>Access</b>	North from Miami on Route 88 to 288 to Young and north on the Christopher Creek route for approximately 8 miles.
<b>Elevation</b>	5,688' MSL
<b>Runway Length</b>	3,900'
<b>Runway Width</b>	50'
<b>Runway Surface</b>	Dirt
<b>Runway Lights</b>	None
<b>Services</b>	None
<b>Recreational Activities</b>	Haigler Creek located north (Camping, fishing, swimming, hiking or picnicing). North on Hwy 12 there are underground caves.
<b>Distance to the Activities</b>	Approximately 8 miles of Haigler Creek.
<b>Obstructions to Airspace</b>	No obstructions exist.
<b>Environmental Impacts</b>	None anticipated.
<b>Site Construction</b>	Many excellent camping sites exist around the airfield. The land area lands itself well for development of an aircraft parking and camping facility.
<b>Utilities</b>	Electrical powerlines pass within a few hundred feet of the south end of the runway. No other services exist.
<b>Development Costs</b>	Camping site and airfield development only will cost approximately \$700,000.
<b>Maintenance Costs</b>	Annual maintenance costs estimates are approximately \$6,000 due to the Town of Young being so close.
<b>Airspace Conflicts</b>	None.
<b>Potential Sponsor</b>	Town of Young
<b>Estimate Annual Users</b>	Attractions are limited to those within the community of Young. Estimated users are 500, initially, and growing to 1,500 within 5 years.
<b>Overall Potential</b>	Excellent





REMARKS:

ACRES \_\_\_\_\_



MAG. DEC. 12°E (1991)  
-5°E ANNUAL VARIATION

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**PLEASANT VALLEY  
INTERNATIONAL AIRPORT**  
YOUNG, ARIZONA

NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 88.2°F  
ELEVATION: 5688'  
RUNWAY LENGTH: 3900'  
RUNWAY WIDTH: 75'  
RUNWAY SURFACE: DIRT/GRASS  
OWNER:  
APPROACH CATEGORY "A"  
DESIGN GROUP II



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 200  
Phoenix, Arizona 85044  
(602) 438-2200

## PLEASANT VALLEY

<b>A. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$ 6,000
	2. Camping Facilities	
	- Landscaping .....	\$ 3,000
	- Sun Shelters (3 @ \$4,000) .....	\$ 12,000
	- Tables (6 @ \$300) .....	\$ 1,800
	- Fire Pits (6 @ \$500) .....	<u>\$ 3,000</u>
	Subtotal .....	\$19,800
	3. Electrical .....	\$ 8,000
	4. Water .....	\$ 7,000
	5. Sewer (Septic) .....	\$10,000
	6. Restroom/Shower Building .....	<u>\$25,000</u>
	Subtotal .....	\$75,800
	7. Contingency/Engineering (25%) .....	<u>\$ 18,900</u>
	<b>TOTAL A .....</b>	<b>\$94,700</b>
<b>B. Runway, Taxiway, &amp; Apron</b>	1. Runway Paving .....	\$469,000
	2. Apron Paving (1,500 SY) .....	<u>\$ 15,000</u>
	Subtotal .....	\$484,000
	3. Contingency/Engineering (25%) .....	<u>\$121,000</u>
	<b>TOTAL B .....</b>	<b>\$605,000</b>
	<b>TOTAL A &amp; B .....</b>	<b><u>\$699,700</u></b>

## MARTINEZ LAKE AIR STRIP

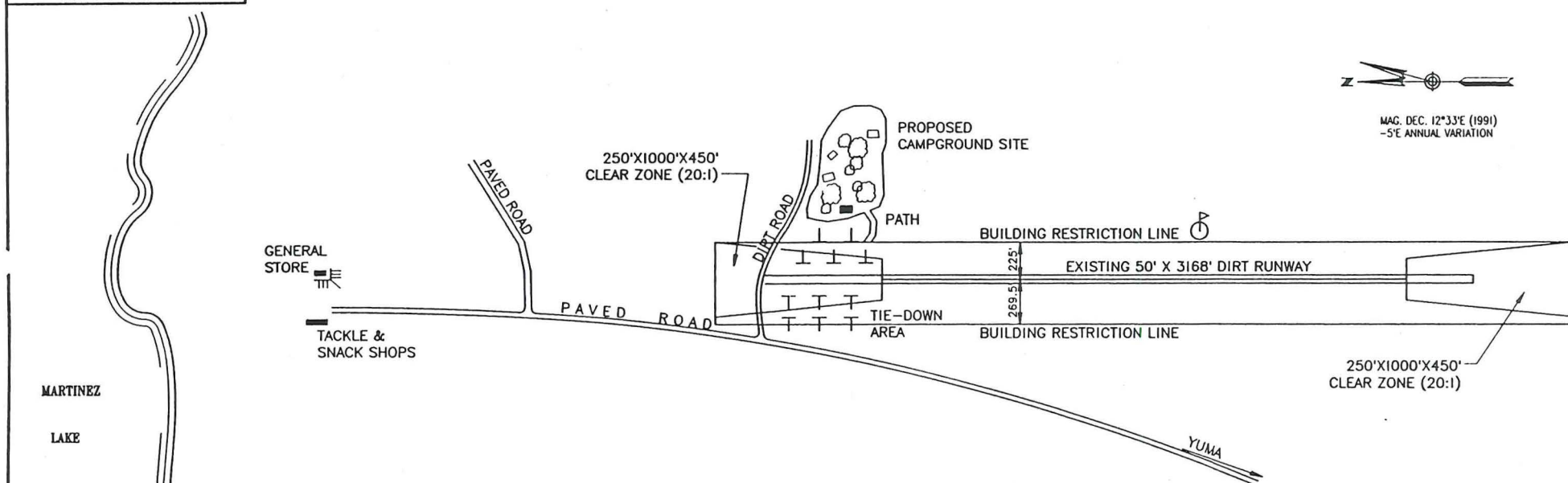
<b>Location</b>	30 Miles north of Yuma
<b>Long./Lat.</b>	114° 28' 30"      32° 48' 30"
<b>Owner</b>	Private, on property lease from State of Arizona
<b>Access</b>	North from Yuma on State Route 95 to marked turn off to the west for approximately 20 miles.
<b>Elevation</b>	400' MSL ±
<b>Runway Length</b>	3,900'
<b>Runway Width</b>	50'
<b>Runway Surface</b>	Dirt
<b>Runway Lights</b>	None
<b>Services</b>	General store, fishing and tackle shops.
<b>Recreational Activities</b>	Martinez Lake location due west (camping, fishing or picnicking within walking distance). Tie-down area and campsites currently exist.
<b>Distance to the Activities</b>	Approximately 1/4 to 1/2 mile to Martinez Lake.
<b>Obstructions to Airspace</b>	No obstructions exist.
<b>Environmental Impacts</b>	None anticipated.
<b>Site Construction</b>	Camping sites close to the airfield now exist. The area lends itself to the the improvement and additions to the existing facilities.
<b>Utilities</b>	Electrical and water are within 300 feet to 500 feet of the airfield.
<b>Development Costs</b>	Campsite improvement, restroom/showers, water, electrical estimated cost is approximately \$70,000.
<b>Maintenance Costs</b>	Annual maintenance costs will be approximately \$7,500.
<b>Airspace Conflicts</b>	Potential conflicts with the Yuma Proving Grounds
<b>Potential Sponsor</b>	Privately Owned.
<b>Estimate Annual Users</b>	The site is currently in use. Its proximity to the Martinez Lake and the Colorado River insure continued use. Current use is approximately 200 to 250 aircraft per year. Approximately 90 percent of the traffic is California based.
<b>Overall Potential</b>	Excellent





REMARKS:

ACRES \_\_\_\_\_



NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 107°F  
ELEVATION: 360'±  
RUNWAY LENGTH: 3168'  
RUNWAY WIDTH: 50'  
RUNWAY SURFACE: DIRT  
OWNER:  
APPROACH CATEGORY "A"  
DESIGN GROUP 1

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**MARTINEZ LAKE AIRPORT**  
MARTINEZ LAKE, ARIZONA



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 200  
Phoenix, Arizona 85044  
(602) 438-2200

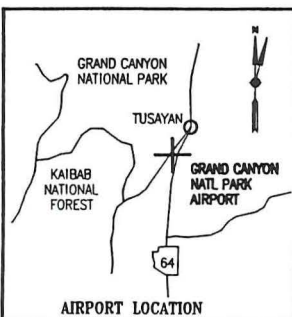
## MARTINEZ AIRPORT

<b>A. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$ 6,000
	2. Camping Facilities	
	- Landscaping .....	\$ 3,000
	- Sun Shelters (3 @ \$4,000) .....	\$ 12,000
	- Tables (8 @ \$300) .....	\$ 2,400
	- Fire Pits (8 @ \$500) .....	<u>\$ 4,000</u>
	Subtotal .....	\$21,400
	3. Electrical .....	\$ 8,000
	4. Water (Existing) .....	\$ 7,000
	5. Sewer (Septic) .....	\$10,000
	6. Restroom/Shower Building .....	<u>\$25,000</u>
	Subtotal .....	\$77,400
	7. Contingency/Engineering (25%) .....	<u>\$ 19,300</u>
	<b>TOTAL A .....</b>	<b><u>\$96,700</u></b>

## GRAND CANYON NATIONAL PARK AIRPORT

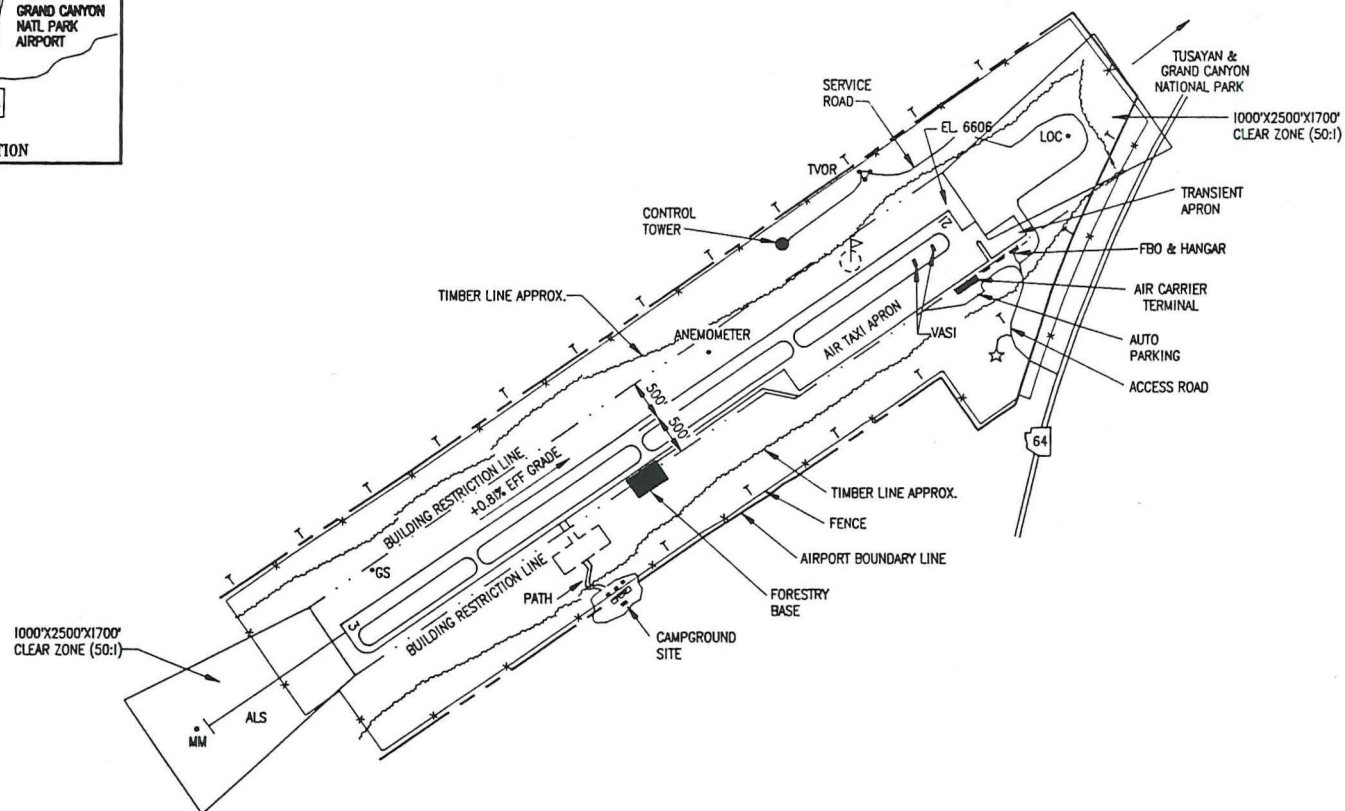
<b>Location</b>	Grand Canyon, Coconino County
<b>Long./Lat.</b>	N35° 57'1"                      W112° 08'8"
<b>Owner</b>	State of Arizona (Public)
<b>Access</b>	State Route 64
<b>Elevation</b>	6,606' Mean Sea Level (MSL)
<b>Runway Length</b>	8,999'
<b>Runway Width</b>	150'
<b>Runway Surface</b>	Asphalt
<b>Runway Lights</b>	Medium Intensity
<b>Services</b>	Control Tower, Fuel, Maintenance, Tie-downs, Telephone, and Food.
<b>Recreational Activities</b>	Air tours over the Grand Canyon are available at the airport, hiking the Canyon and surrounding area, horse and mule riding in and around the Canyon, national park, and many other family-oriented recreational activities are available.
<b>Distance to the Activities</b>	Approximately 10 miles. Transportation and rental cars are available.
<b>Obstructions to Airspace</b>	None.
<b>Environmental Impacts</b>	None anticipated.
<b>Site Construction</b>	An excellent location exists for a camping site. Located southwest of the terminal area of the airport. The site is on a raised area, above the apron and taxiway by about 30-feet.
<b>Utilities</b>	Water, sewer, and electricity are available within the terminal area and could be extended.
<b>Development Costs</b>	Camping site only would cost approximately \$220,000 to develop.
<b>Maintenance Costs</b>	The estimated cost for maintenance of the camping site is \$6,000 per year.
<b>Airspace Conflicts</b>	No conflicts exist with Military or other controlled airspace. Heavy aircraft operations with sightseeing aircraft could be a potential problem.
<b>Potential Sponsor</b>	State of Arizona, Aeronautics Division of ADOT.
<b>Estimated Annual Users</b>	Seasonal usage, initially 1,800 to 4,500 users within 5 years.
<b>Overall Potential</b>	Good to Excellent.





REMARKS:  
AIRPORT IS LOCATED IN ROLLING TERRAIN  
AND HEAVILY WOODED AREA.

ACRES- 859



MAG. DEC. 12°49' (1991)  
-5' E ANNUAL VARIATION

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**GRAND CANYON  
NATIONAL AIRPORT**  
GRAND CANYON (TUSAYAN), ARIZONA

NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 84.7°F  
ELEVATION: 6606' MSL  
RUNWAY LENGTH: 8999'  
RUNWAY WIDTH: 150'  
RUNWAY SURFACE: ASPHALT  
OWNERS: STATE AZ.  
APPROACH CATEGORY "C"  
DESIGN GROUP II



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200

# GRAND CANYON NATIONAL PARK AIRPORT

## A. Campsite Improvements

1. Clearing & Grubbing .....	\$ 9,000
2. Camping Facilities	
- Landscaping .....	\$ 8,000
- Electrical .....	\$10,000
- Sun Shelters (6 @ \$4,000) .....	\$24,000
- Tables (10 @ \$300) .....	\$ 3,000
- Fire Pits (10 @ \$500) .....	<u>\$ 5,000</u>
Subtotal .....	\$ 50,000
3. Water (Well or Water Line) .....	\$ 15,000
4. Sewer (Septic System) .....	\$ 10,000
5. Restroom/Shower Building .....	<u>\$ 25,000</u>
Subtotal .....	\$109,000
6. Contingency/Engineering (25%) .....	<u>\$ 27,200</u>
<b>TOTAL A .....</b>	<b>\$136,200</b>

## B. Aircraft Parking

1. Paved Taxiway .....	\$ 6,000
2. Paved Apron .....	<u>\$ 60,000</u>
Subtotal .....	\$ 66,000
3. Contingency/Engineering (25%) .....	<u>\$ 16,500</u>
<b>TOTAL B .....</b>	<b>\$82,500</b>
<b>TOTAL A &amp; B .....</b>	<b><u>\$218,700</u></b>

## TEMPLE BAR AIRPORT

<b>Location</b>	Temple Bar, Mohave County
<b>Long./Lat.</b>	N36° 01'2"                      W114° 20'1"
<b>Owner</b>	US National Park Service
<b>Access</b>	US 93 and Temple Bar Road North
<b>Elevation</b>	1,549' MSL
<b>Runway Length</b>	3,500'
<b>Runway Width</b>	50'
<b>Runway Surface</b>	Asphalt
<b>Runway Lights</b>	None
<b>Services</b>	Automobile fuel, aircraft tie-downs, telephone, food, National Park Service campgrounds, restrooms, water, groceries, rental cabins, and visitors center.
<b>Recreational Activities</b>	Lake Mead, boating, fishing, and other water related activities.
<b>Distance to Activity</b>	Approximately 1,000-feet from aircraft parking. An access road and walking paths are available to the lake and other park facilities.
<b>Obstructions to Airspace</b>	None
<b>Environmental Impacts</b>	None anticipated due to similar existing uses and airport.
<b>Site Construction</b>	This is an excellent location for a recreational airport. Everything is currently available with the exception of a separate area for aircraft owner camping. Several aircraft owners or operators were already using the aircraft apron for camping adjacent to their aircraft. An area immediately to the east of the airstrip would be excellent for a camping site. Trees planted around the existing campsites lessen the winds are common around the lake. This wind-break would also be needed in the aircraft camping area.
<b>Utilities</b>	All utilities are available several hundred feet north of the existing campgrounds.
<b>Development Costs</b>	The camping site improvements are the only development costs involved. These are estimated to be approximately \$130,000.
<b>Maintenance Costs</b>	The estimated cost for the camping site and facilities would be approximately \$3,000, annually.
<b>Airspace Conflicts</b>	None known at this time. Sightseeing tours in the area would be a limited concern.
<b>Potential Sponsor</b>	US National Park Service; Mohave County



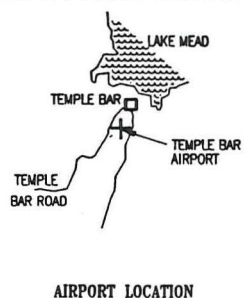
## Temple Bar Airport - Page Two

**Estimated Annual Users**

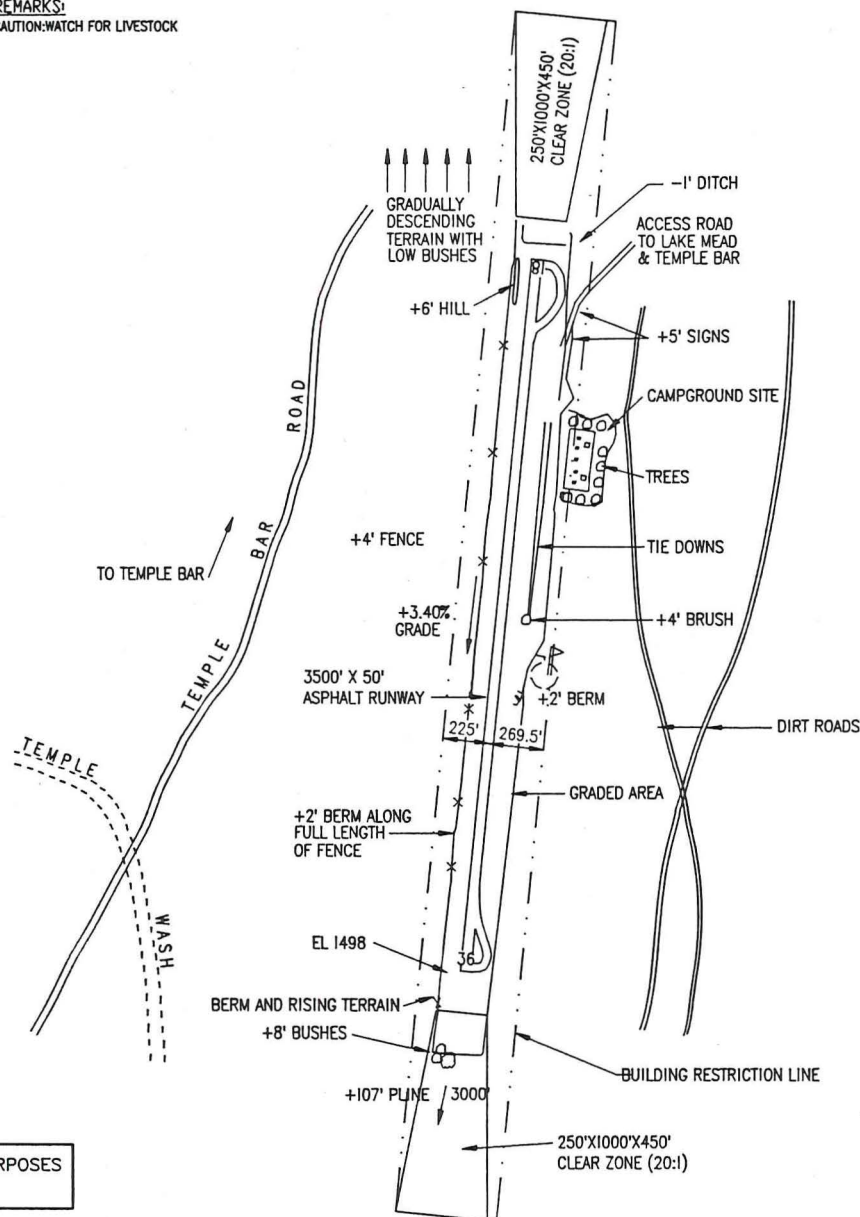
Seasonal usage with a fairly long season. Initially 2,400 to 5,500 users per year within 5 years.

**Overall Potential**

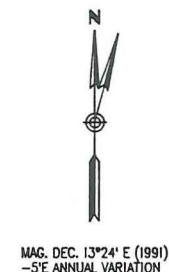
Excellent, due to the existing recreational activities and camping facilities. Existing aircraft camping at the airport.



REMARKS:  
CAUTION: WATCH FOR LIVESTOCK



NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.



ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN

TEMPLE BAR AIRPORT

TEMPLE BAR, ARIZONA



ENGINEERING COMPANY

7776 Points Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200

DESIGN TEMP.: 108°F  
ELEVATION: 1498' MSL  
RUNWAY LENGTH: 3500'  
RUNWAY WIDTH: 50'  
RUNWAY SURFACE: ASPHALT  
OWNERS: NATIONAL PARK SERVICE  
APPROACH CATEGORY "A"  
DESIGN GROUP I

## TEMPLE BAR AIRPORT

<b>A. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$ 9,000
	2. Camping Facilities	
	- Landscaping .....	\$10,000
	- Electrical .....	\$ 3,500
	- Sun Shelters (6 @ \$4,000) .....	\$24,000
	- Tables (10 @ \$300) .....	\$ 3,000
	- Fire Pits (10 @ \$500) .....	<u>\$ 5,000</u>
	Subtotal .....	\$ 45,500
	3. Water (Existing) .....	\$ 5,000
	4. Sewer (Existing) .....	\$ 20,000
	5. Restroom/Shower Building .....	<u>\$ 25,000</u>
	Subtotal .....	\$104,500
	6. Contingency/Engineering (25%) .....	<u>\$ 26,100</u>
	<b>TOTAL A .....</b>	<b><u><u>\$130,600</u></u></b>



## PEARCE FERRY AIRPORT

<b>Location</b>	Meadview, Mohave County
<b>Long./Lat.</b>	N36° 05'6"                      W114° 02'7"
<b>Owner</b>	US National Park Service
<b>Access</b>	From US 93 to the Nevada Highway
<b>Elevation</b>	2,941' MSL (estimated)
<b>Runway Length</b>	2,810'
<b>Runway Width</b>	90'
<b>Runway Surface</b>	Compacted soils with some gravel
<b>Runway Lights</b>	None
<b>Services</b>	None
<b>Recreational Activities</b>	Lake Mead and associated recreational activities such as boating, fishing, water sports, and hiking. Golf is available in Meadview.
<b>Distance to the Activities</b>	By air, it would only be approximately one mile. Unfortunately, the airstrip elevation is roughly 1,500 feet higher than the recreational area. Following the roadway it would be approximately five (5) miles to the lake.
<b>Obstructions to Airspace</b>	None.
<b>Environmental Impacts</b>	None anticipated.
<b>Site Construction</b>	The airfield location has an excellent view of Lake Mead and surrounding area. The airfield is used by visitors to Meadview and for transporting raft trip passengers. There is sufficient flat land adjacent to the airstrip which could be developed for aircraft parking and camp site.
<b>Utilities</b>	No utilities appear available within a reasonable distance from the airport.
<b>Development Costs</b>	Development of the camping area and the aircraft parking location would be estimated to be \$80,000.
<b>Maintenance Costs</b>	The estimated annual maintenance cost for the camping facility is \$3,000.
<b>Airspace Conflicts</b>	No restricted airspace exists in the area, but pilots are cautioned to watch for sightseeing aircraft.
<b>Potential Sponsor</b>	US National Park Service, Town of Meadview, Mohave County
<b>Estimated Annual Users</b>	Seasonal usage, initially 900 to 2,400 users per year within 5 years.
<b>Overall Potential</b>	Fair to Good.



## PEARCE FERRY

### A. Campsite Improvements

1. Clearing & Grubbing .....	\$ 9,000
2. Camping Facilities	
- Landscaping .....	\$ 3,000
- Sun Shelters (2 @ \$4,000) .....	\$ 8,000
- Tables (5 @ \$300) .....	\$ 1,500
- Fire Pits (5 @ \$500) .....	<u>\$ 2,500</u>
Subtotal .....	\$15,000
3. Restrooms (Portable) .....	<u>\$ 5,000</u>
Subtotal .....	\$29,000
4. Contingency/Engineering (25%) .....	<u>\$ 7,200</u>
<b>TOTAL A .....</b>	<b>\$36,200</b>

### B. Taxiway & Apron

1. Taxiway (dirt) .....	\$22,000
2. Apron (dirt) .....	<u>\$15,000</u>
Subtotal .....	\$37,000
3. Contingency/Engineering (25%) .....	<u>\$ 9,200</u>
<b>TOTAL B .....</b>	<b>\$46,200</b>
<b>TOTAL A &amp; B .....</b>	<b><u>\$82,400</u></b>

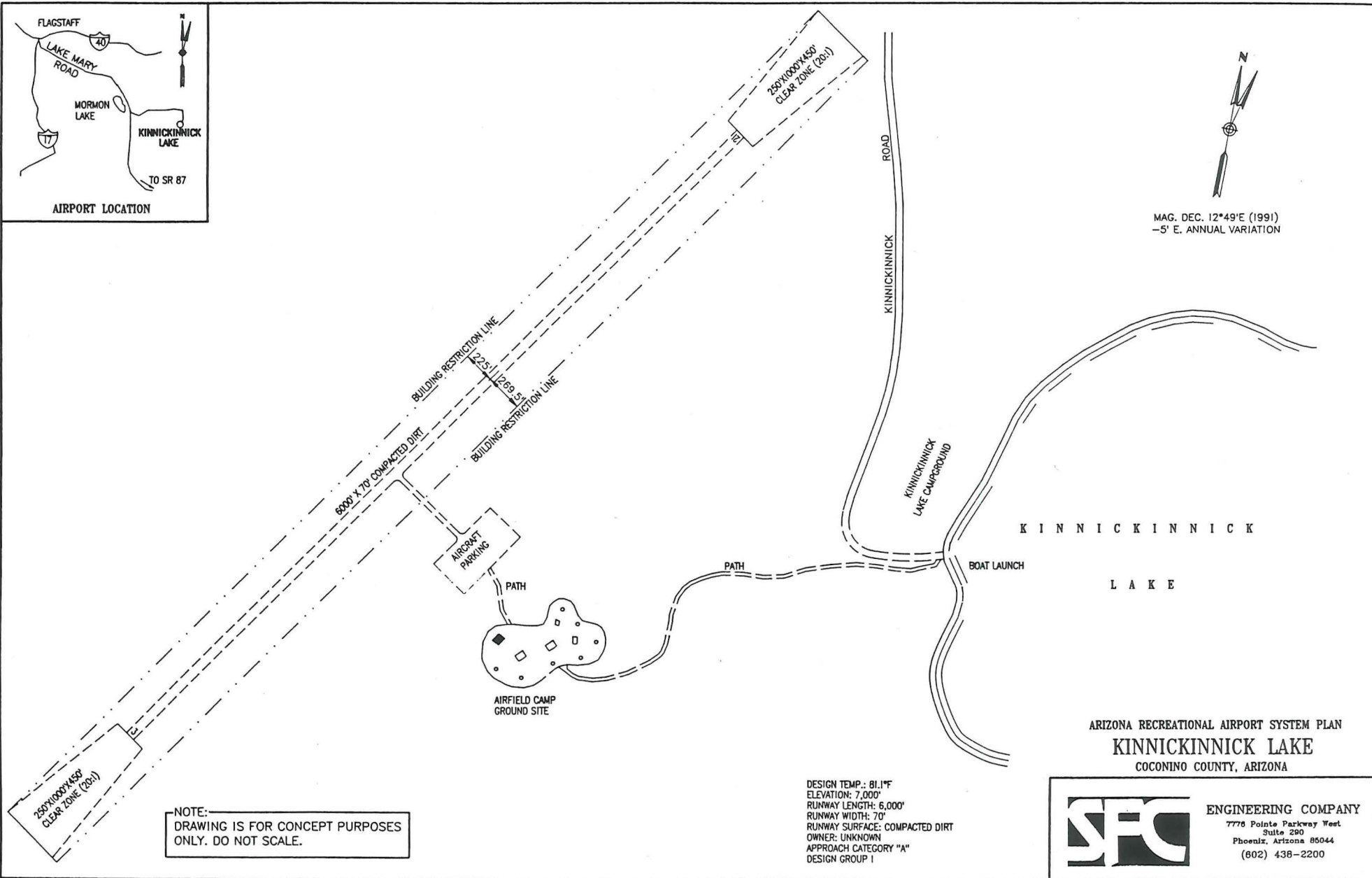


## KINNIKINNICK LAKE AREA

<b>General Location</b>	Kinnikinnick Lake, Coconino County
<b>Access</b>	Access from Flagstaff, take Lake Mary Road for 25 miles and turn east on Kinnikinnick Lake Road for 11 miles.
<b>Elevation</b>	Approximately 7,000' MSL
<b>Runway Length</b>	6,000' anticipated.
<b>Recreational Activities</b>	Fishing, boating, and other water related activities. Hiking is also another possibility. At the preferred location there is a boat ramp and port-a-potty.
<b>Distance to the Activities</b>	Can range from a quarter mile to one mile from lake's access area.
<b>Area Description</b>	The area surrounding the proposed site is extremely flat with little vegetation and no trees with relatively easy access to the lake. All mountains are well in the distance. The roadway to the lake from Lake Mary Road is dirt and not heavily traveled.
<b>Construction/Airfield &amp; Camping Site</b>	The estimated cost for developing an airfield and campground in the proposed location is approximately \$1,330,000.
<b>Maintenance Costs</b>	The cost for maintaining the total facility on an annual basis is estimated at \$12,000.
<b>Airspace Conflicts</b>	None
<b>Obstructions to Airspace</b>	None
<b>Environmental Impacts</b>	Potential impacts will be endangered species of animals and plant life, land use, water, water quality and construction activities. It does not appear that there are many impacts which would prevent the airfield from being built.
<b>Utilities</b>	None in the area.
<b>Potential Sponsor</b>	U.S. Forest Service; Coconino County
<b>Estimated Annual Users</b>	Existing recreational use; The site fits all the criteria established for a recreational airport site, so the estimated users will be fairly high. Initially between 850 and 3,000 users per year within 5 years.
<b>Overall Potential</b>	Excellent



MAG. DEC. 12°49'E (1991)  
-5' E. ANNUAL VARIATION



NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 81.1°F  
ELEVATION: 7,000'  
RUNWAY LENGTH: 6,000'  
RUNWAY WIDTH: 70'  
RUNWAY SURFACE: COMPACTED DIRT  
OWNER: UNKNOWN  
APPROACH CATEGORY "A"  
DESIGN GROUP I

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
KINNICKINNICK LAKE  
COCONINO COUNTY, ARIZONA



ENGINEERING COMPANY  
7776 Points Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200

## KINNICKINNICK LAKE AIRPORT (NEW)

### A. Airport Development (Airfield)

1. Clearing & Grubbing ..... \$ 60,000
2. Earthwork & Computations (L.S.) ..... \$165,000
3. Aggregate Base Course ..... \$306,000
4. Prime Coat ..... \$ 33,000
5. Asphaltic Concrete ..... \$354,000
6. Stipping ..... \$ 5,000
- Subtotal ..... \$923,000
7. Contingency & Engineering (25%) ..... \$230,700

**TOTAL A** ..... **\$1,153,700**

**Alternate A (Dirt Facility)** ..... **\$ 660,000**

### B. Campsite Improvements

1. Clearing & Grubbing (L.S.) ..... \$ 6,000
2. Camping Facilities
  - Landscaping ..... \$ 8,000
  - Sun Shelters (3 @ \$4,000) ..... \$12,000
  - Tables (6 @ \$300) ..... \$ 1,800
  - Fire Pits (6 @ \$500) ..... \$ 3,000Subtotal ..... \$24,800
3. Electrical (Solar) ..... \$10,000
4. Water (Well) ..... \$10,000
4. Sewer (Septic) ..... \$10,000
5. Restroom/Shower Building ..... \$20,000
- Subtotal ..... \$80,800
6. Contingency/Engineering (25%) ..... \$20,200

**TOTAL B** ..... **\$101,000**

### C. Land Contingency

**TOTAL C** ..... **\$ 25,000**

### D. Environmental/Site Planning

**TOTAL D** ..... **\$ 50,000**

**TOTAL A, B, C & D** ..... **\$1,329,700**



## MARBLE CANYON AIRPORT

<b>Location</b>	Marble Canyon, Coconino County
<b>Long./Lat.</b>	N36° 48'8"                      W111° 38'8"
<b>Owner</b>	Marble Canyon Lodge (Private)
<b>Access</b>	US 89 to Alt 89
<b>Elevation</b>	3,606' MSL
<b>Runway Length</b>	3,700'
<b>Runway Width</b>	30'
<b>Runway Surface</b>	Asphalt
<b>Runway Lights</b>	None
<b>Services</b>	Telephone, motel, and restaurant.
<b>Recreational Activities</b>	Fishing, river rafting, boating, camping, and sightseeing.
<b>Distance to the Activities</b>	5 miles to Lee's Ferry which is a boat launching site on the Colorado River. The river runs within 500-feet of the Airstrip. Steep cliffs between camping areas and river.
<b>Obstructions to Airspace</b>	High ridges rising 3,000 feet above airfield on the west and east sides. Approaches are clear of obstructions.
<b>Environmental Impacts</b>	Limited residential area and lodging north of airstrip. Noise could be a factor.
<b>Site Construction</b>	An excellent location exists between the river and airstrip for camping sites. Several tents were already in place in the area. Owners expressed a desire not to allow camping on proposed site, because it will take business away from motel. Unpaved tie-downs exist at this time and a good and flat area is available adjacent to the airstrip.
<b>Utilities</b>	Water, sewer, and electricity are within 100 to 200-feet of the airstrip. All utilities are owned by the Marble Canyon Lodge.
<b>Development Costs</b>	An aircraft parking apron and access taxiway would be the only airfield development cost required. The airfield improvements along with those required for the camping facility are estimated to cost approximately \$140,000.
<b>Maintenance Costs</b>	The estimated cost for maintenance of the aircraft parking area and camp site is \$1,200 per year.
<b>Airspace Conflicts</b>	Possible, but unreported to date. Potential conflict with Cliff Dwellers Lodge Airstrip located approximately 5 miles out of Marble Canyon Airport.

**Potential Sponsor**

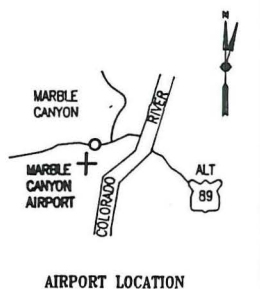
The owners are skeptical about including a camping site. Marketing of location for new tourist trade might spark their interest.

**Estimated Annual Users**

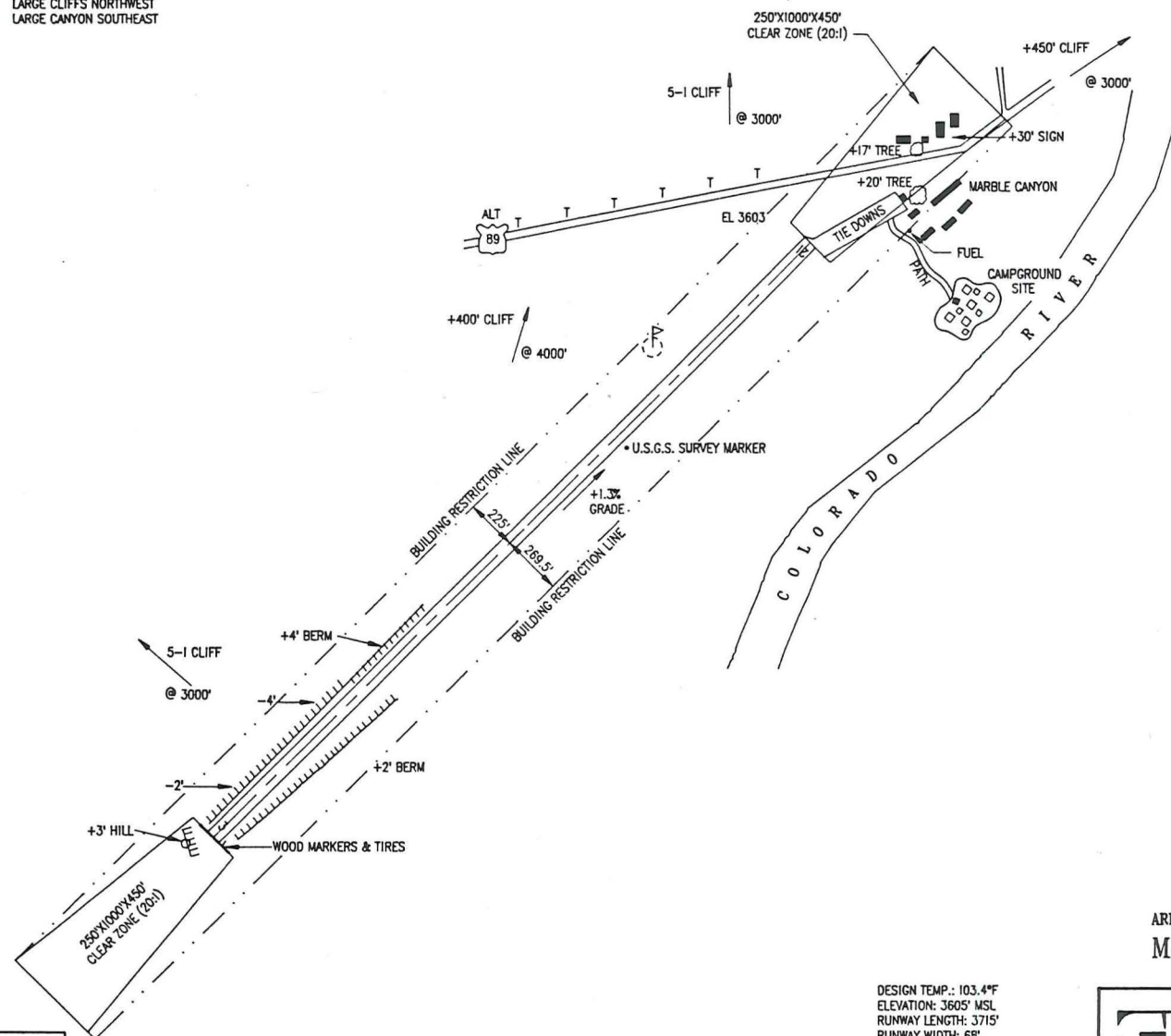
Seasonal usage, initially 880 to 1,800 users annually within 5 years.

**Overall Potential**

Good with or without camping sites. Economical overnight accommodations and food services are available.



**REMARKS:**  
 LARGE CLIFFS NORTHWEST  
 LARGE CANYON SOUTHEAST



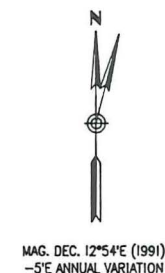
**NOTE:**  
 DRAWING IS FOR CONCEPT PURPOSES  
 ONLY. DO NOT SCALE.

DESIGN TEMP.: 103.4°F  
 ELEVATION: 3605' MSL  
 RUNWAY LENGTH: 3715'  
 RUNWAY WIDTH: 68'  
 RUNWAY SURFACE: DIRT  
 OWNERS: MARBLE CANYON LODGE  
 APPROACH CATEGORY "A"  
 DESIGN GROUP I

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**MARBLE CANYON AIRPORT**  
 MARBLE CANYON, ARIZONA



**ENGINEERING COMPANY**  
 7776 Polite Parkway West  
 Suite 280  
 Phoenix, Arizona 85044  
 (602) 438-2200





## MARBLE CANYON AIRPORT

### A. Campsite Improvements

1. Clearing & Grubbing .....	\$ 6,000
2. Camping Facilities	
- Landscaping .....	\$ 8,000
- Electrical .....	\$ 3,000
- Sun Shelters (3 @ \$4,000) .....	\$12,000
- Tables (5 @ \$300) .....	\$ 1,500
- Fire Pits (5 @ \$500) .....	<u>\$ 2,500</u>
Subtotal .....	\$27,000
3. Water (Waterline) .....	\$10,000
4. Sewer (Existing) .....	\$20,000
5. Restroom/Shower Facility .....	\$20,000
6. Access Path .....	<u>\$ 2,000</u>
Subtotal .....	\$85,000
7. Contingency/Engineering (25%) .....	<u>\$21,200</u>
<b>TOTAL A .....</b>	<b>\$106,200</b>

### B. Apron Expansion

1. Paved Apron .....	\$30,000
3. Contingency/Engineering (25%) .....	<u>\$ 7,500</u>
<b>TOTAL B .....</b>	<b>\$37,500</b>
<b>TOTAL A &amp; B .....</b>	<b><u>\$143,700</u></b>

## YOLO RANCH AIRPORT

<b>Location</b>	North of Bagdad, Yavapai County	
<b>Long./Lat.</b>	N34° 47'50"	112° 58'30"
<b>Owner</b>	John B Crol, Chicago Land Developer Ranch managed by : CTI, Graig Gibbons and/or Andy Grosetta	
<b>Access</b>	North from Prescott via Iron Springs Road to Williamson Valley Road to the Camp Woods turn off, Yolo Ranch is 20 miles west.	
<b>Elevation</b>	5,950' MSL	
<b>Runway Length</b>	4,000'	
<b>Runway Width</b>	75'	
<b>Runway Surface</b>	Grass and gravel, stable surface	
<b>Runway Lights</b>	None	
<b>Services</b>	Aircraft tie-downs and telephone.	
<b>Recreational Activities</b>	Scenic setting, hiking and camping.	
<b>Distance to the Activities</b>	Yolo Ranch is adjacent to the Prescott National Forest and access to the forest is directly adjacent to the airstrip.	
<b>Obstructions to Airspace</b>	Aircraft traffic to Yolo Ranch airstrip must enter from the south and depart to the south. Obstructions to the north of the airfield are mountains ranging in height from 6,500 to 7,000 feet.	
<b>Environmental Impacts</b>	None anticipated.	
<b>Site Construction</b>	Many excellent camping sites surround the airfield. The land is flat and undeveloped. Before any further action can take place, permission to use the airfield must be granted by the owner. A small aircraft storage area exists adjacent to the main road.	
<b>Utilities</b>	Water and electricity are available on the site.	
<b>Development Costs</b>	Camping site improvements are estimated to cost approximately \$130,000.	
<b>Maintenance Costs</b>	The estimated cost for maintaining the airstrip and camping areas is \$6,000 per year.	
<b>Airspace Conflicts</b>	None exist in this area.	
<b>Potential Sponsor</b>	There is some question as to whether the new owners will want to open the airstrip to the public. Their primary concern is the liability and insurance costs. The airstrip was open to the public until last year. A request will be made to the owners to participate in the Recreational Airport System. The Ranch would have to be the ultimate sponsor.	

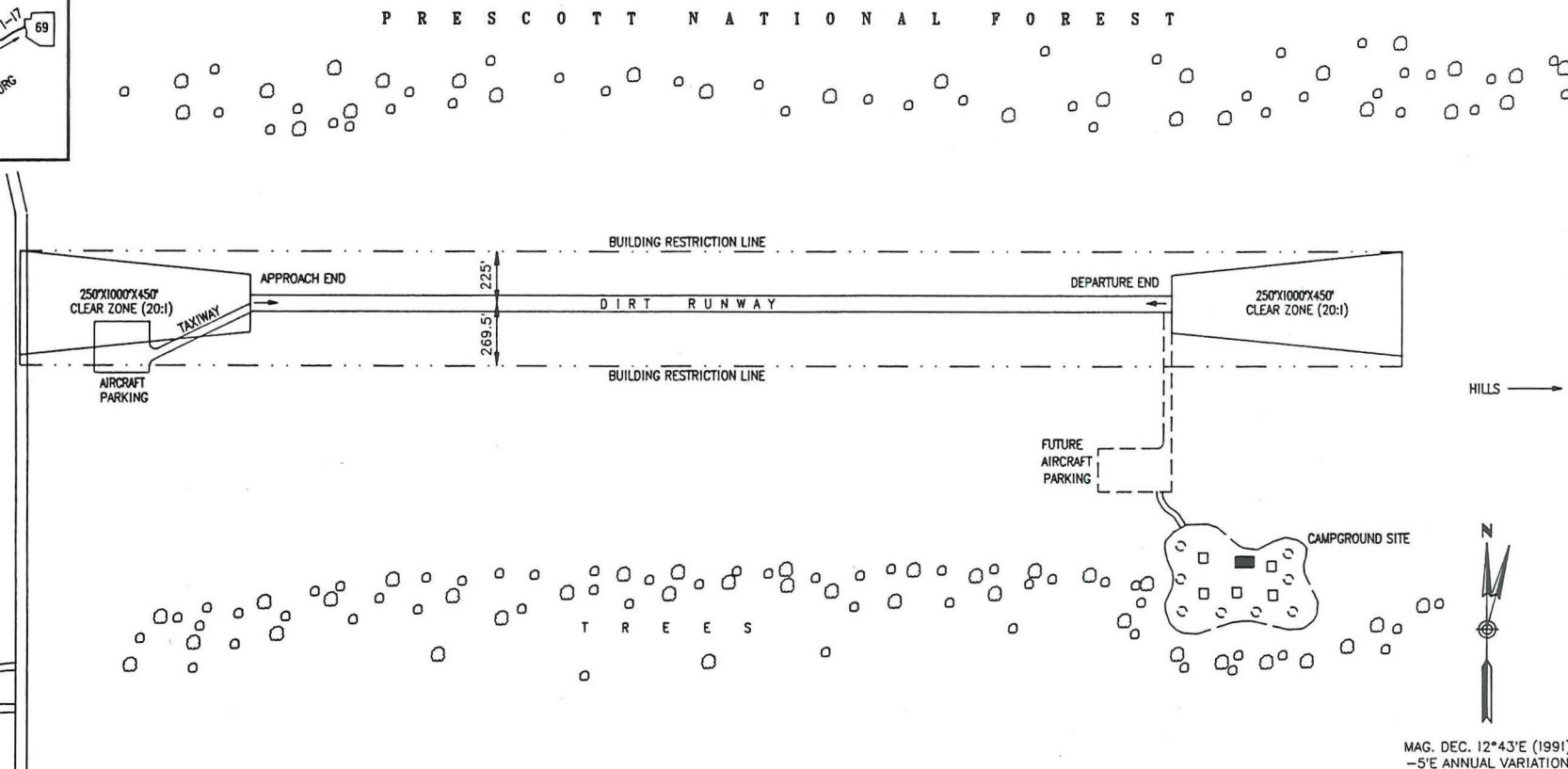
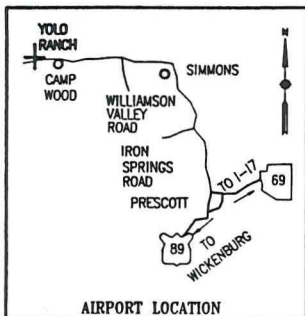
**Estimated Annual Users**

Seasonal usage is expected due to the elevation of the airstrip.  
Initially 500 to 1,500 users, per year, within 5 years.

**Overall Potential**

Good





RANCH  
HOUSES &  
BARN

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**YOLO RANCH AIRSTRIP**  
YAVAPAI COUNTY, ARIZONA

DESIGN TEMP.: 85°F  
ELEVATION: 5,950'  
RUNWAY LENGTH: 4,000'  
RUNWAY WIDTH: 75'  
RUNWAY SURFACE: DIRT  
OWNER: JOHN B. CROL  
APPROACH CATEGORY "A"  
DESIGN GROUP I



**ENGINEERING COMPANY**  
7775 Pointe Parkway West  
Suite 290  
Phoenix, Arizona 85044  
(602) 438-2200

## YOLO RANCH AIRFIELD

### A. Campsite Improvements

1. Clearing & Grubbing .....	\$ 9,000
2. Camping Facilities	
- Landscaping .....	\$ 3,000
- Electrical .....	\$ 3,000
- Sun Shelters (2 @ \$4,000) .....	\$ 8,000
- Tables (5 @ \$300) .....	\$ 1,500
- Fire Pits (5 @ \$500) .....	<u>\$ 2,500</u>
Subtotal .....	\$18,000
3. Water (Well) .....	\$ 5,000
4. Sewer (Septic) .....	\$10,000
5. Restroom Building .....	<u>\$15,000</u>
Subtotal .....	\$57,000
7. Contingency/Engineering (25%) .....	<u>\$14,200</u>
<b>TOTAL A .....</b>	<b>\$71,200</b>

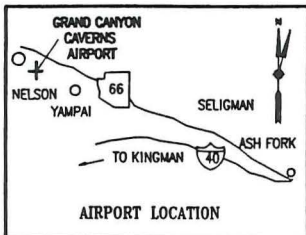
### B. Apron Expansion

1. Taxiway (dirt) .....	\$33,000
2. Apron .....	<u>\$15,000</u>
Subtotal .....	\$48,000
3. Contingency/Engineering (25%) .....	<u>\$12,000</u>
<b>TOTAL B .....</b>	<b>\$60,000</b>
<b>TOTAL A &amp; B .....</b>	<b><u>\$131,200</u></b>

# GRAND CANYON CAVERNS AIRPORT

<b>Location</b>	Nelson, Yavapai County
<b>Long./Lat.</b>	N35° 36'30"                      W113° 15'30"
<b>Owner</b>	Dinosaur Cavern Company, Denver, Colorado
<b>Access</b>	Off of State Route 66, between Nelson and Yampai.
<b>Elevation</b>	5,386' MSL
<b>Runway Length</b>	3,900'
<b>Runway Width</b>	80'
<b>Runway Surface</b>	Compacted dirt (very dusty when landing or taking off)
<b>Runway Lights</b>	None.
<b>Services</b>	Telephone, food, and restrooms.
<b>Recreational Activities</b>	Hiking and touring the Grand Canyon Caverns.
<b>Distance to the Activities</b>	Approximately one and a half miles from the airstrip. Transportation to the Caves is available.
<b>Obstructions to Airspace</b>	None. (Highway is immediately to the north of the airstrip.)
<b>Environmental Impacts</b>	None anticipated.
<b>Site Construction</b>	The airstrip is not in the best location, although it does have good vehicle access that could be combined with an RV Park. The site is fairly flat and a campground could be constructed on the south side of the airfield. It would be important to first pave the runway or control dust before developing new facilities around the airstrip.
<b>Utilities</b>	Utilities are available within several hundred feet of the airstrip.
<b>Development Costs</b>	The total cost for this project will include the amount needed for not only the camping facility, but the runway paving, access taxiway and aircraft parking apron as well. The estimated cost for this project is \$800,000.
<b>Maintenance Costs</b>	The estimated annual cost for maintenance of \$12,000, includes the recreational and related facilities only.
<b>Airspace Conflicts</b>	None.
<b>Potential Sponsor</b>	Dinosaur Caverns Company, Local managers: Ken and Darlene Perry.
<b>Estimated Annual Users</b>	Year Around activity at the caverns could initially produce 570 to 1,500 users within 5 years. Great place for the whole family to visit.
<b>Overall Potential</b>	Good.





GRAND CANYON CAVES ROAD

GRAND CANYON CAVES & RESTAURANT

RAILROAD

MOTEL

AUTO PARK

OFFICE/  
GROCERY  
STORE

GRAND CANYON  
CAVES MOTEL

AIRCRAFT  
PARK

TREES

CAMPGROUND  
SITE

BUILDING RESTRICTION LINE

250'X1000'X450'  
CLEAR ZONE (20:1)

EXISTING DIRT RUNWAY (FUTURE PAVED RUNWAY)

BUILDING RESTRICTION LINE

250'X1000'X450'  
CLEAR ZONE (20:1)

ROUTE 66



MAG. DEC. 13°E (1991)  
-5° E ANNUAL VARIATION

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**GRAND CANYON CAVERNS  
AIRPORT**  
GRAND CANYON (TUSAYAN), ARIZONA

NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 91.8°F  
ELEVATION: 5,386'  
EXISTING RUNWAY LENGTH: 3,900'  
EXISTING RUNWAY WIDTH: 80'  
RUNWAY SURFACE: DIRT (DUSTY)  
OWNERS: DINOSAUR CAVERN CO.  
APPROACH CATEGORY "A"  
DESIGN GROUP I



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 250  
Phoenix, Arizona 85044  
(602) 438-2200

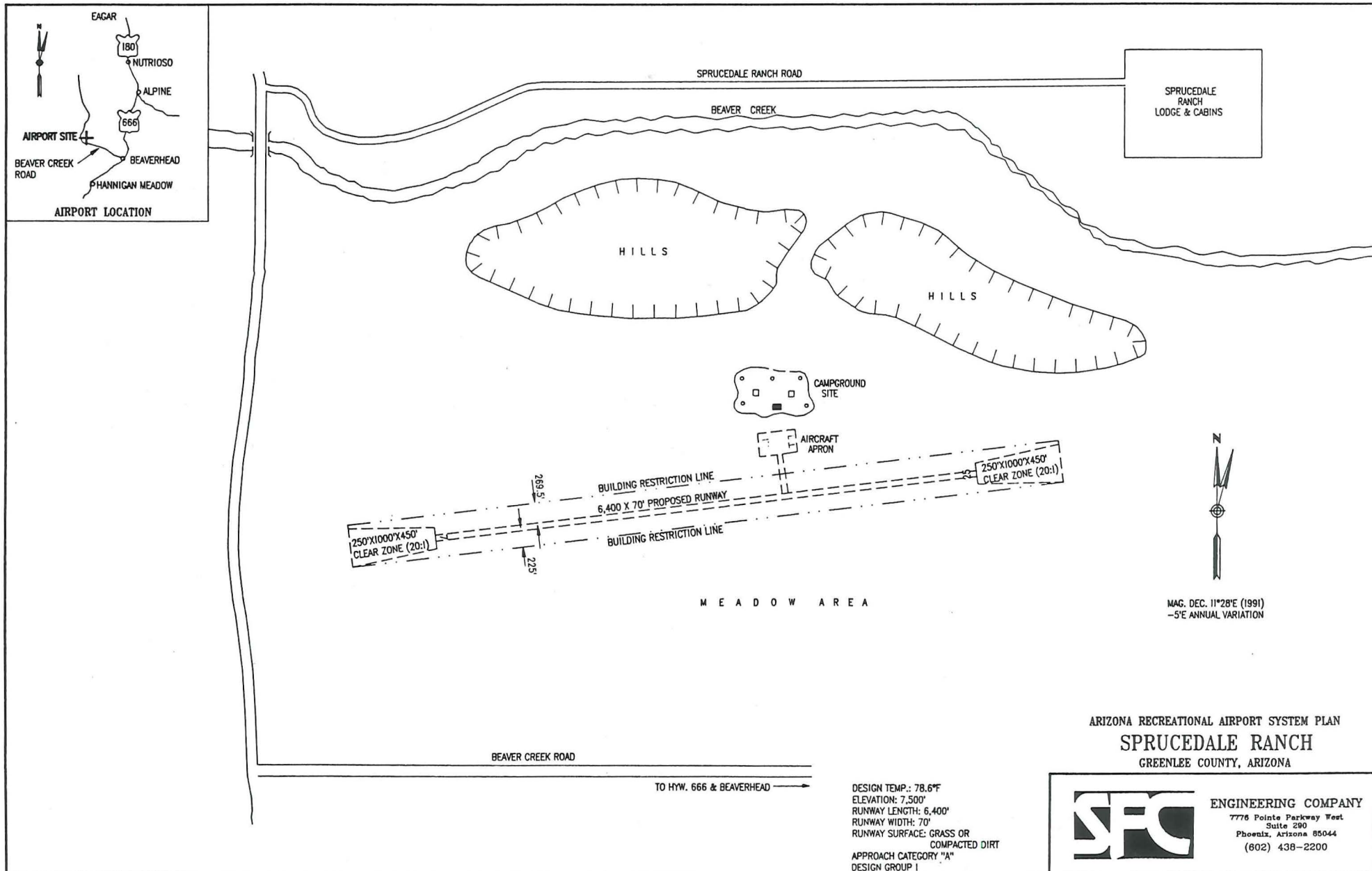
# GRAND CANYON CAVERNS

<b>A. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$ 9,000
	2. Camping Facilities	
	- Landscaping .....	\$ 8,000
	- Sun Shelters (2 @ \$4,000) .....	\$ 8,000
	- Tables (5 @ \$300) .....	\$ 1,500
	- Fire Pits (5 @ \$500) .....	<u>\$ 2,500</u>
	Subtotal .....	\$20,000
	3. Electrical .....	\$ 8,000
	4. Water .....	\$15,000
	5. Sewer (Septic) .....	\$10,000
	6. Restroom/Shower Building .....	<u>\$25,000</u>
	Subtotal .....	\$87,000
	7. Contingency/Engineering (25%) .....	<u>\$21,700</u>
	<b>TOTAL A .....</b>	<b>\$108,700</b>
<b>B. Runway, Taxiway &amp; Apron</b>	1. Runway Paving .....	\$520,000
	2. Taxiway Paving .....	\$ 6,000
	3. Apron Paving .....	<u>\$ 15,000</u>
	Subtotal .....	\$541,000
	4. Contingency/Engineering (25%) .....	<u>\$135,200</u>
	<b>TOTAL B .....</b>	<b>\$676,200</b>
<b>C. Land Contingency</b>	<b>TOTAL C .....</b>	<b>\$ 15,000</b>
	<b>TOTAL A, B &amp; C .....</b>	<b><u>\$799,900</u></b>

## SPRUCEDALE RANCH AREA

<b>General Location</b>	Alpine/Beaverhead area, Greenlee County
<b>Access</b>	Access from US 666, turn west at Beaverhead for approximately 12 to 13 miles. This is a dirt road which is in excellent condition. Beaverhead is 14 miles south of Alpine.
<b>Elevation</b>	7,500' MSL
<b>Runway Length</b>	6,400' estimated.
<b>Recreational Activities</b>	Sprucedale Ranch is a "dude ranch" which involves horseback riding and fishing in nearby lakes and streams. Cabins for camping area available. There are also magnificent views of very scenic areas around the ranch. Several new "dude ranches" will be developed within the next year.
<b>Distance to the Activities</b>	The airfield location would be approximately one (1) mile from the main lodge at Sprucedale Ranch. Fishing facilities and the lakes are about 15 miles from the lodge.
<b>Area Description</b>	The ranch area is high up in the mountains in a very large open meadow. There are several smaller hills immediately adjacent to the ranch. The meadow is fairly flat and can be developed as an airfield. In the meadow are grasses and a few small trees. At one time there existed an airstrip in this same location. Our investigation did not turn up the airport site. The surrounding hills and mountains have tall pine trees and other growth. The main roadway almost circles the ranch and meadow property.
<b>Construction/Airfield &amp; Camping Site</b>	The estimated cost for developing the airfield will be \$1,860,000
<b>Maintenance Costs</b>	The cost for maintaining both the airfield and camping site is estimated at \$10,000 per year.
<b>Airspace Conflicts</b>	The proposed site falls within the Reserve MOA. The Reserve MOA has an operational limitation on 5,000' AGL, 0600 to 2100 hours, Monday through Friday.
<b>Obstructions to Airspace</b>	There is a string of small hills to the north of the proposed airport site. There are other mountains in the area, but neither the hills or mountains should significantly constrain aircraft operations.
<b>Environmental Impacts</b>	Potential impacts could involve endangered species of animals and plant life. Other impacts might be associated with water and water quality and construction activities.
<b>Utilities</b>	Electrical and telephone would be available near the site.
<b>Potential Sponsor</b>	Wiltbank's Sprucedale Ranch or the private land owner where the old airstrip was located.
<b>Estimated Annual Users</b>	The area is attractive and has some unusual activities, which have attracted for Californians as well as people from the Phoenix and Tucson areas. The Wiltbanks indicated that the majority of their business comes from California. Potential users would initially be between 420 and 2,500 per year within 5 years.
<b>Overall Potential</b>	Good





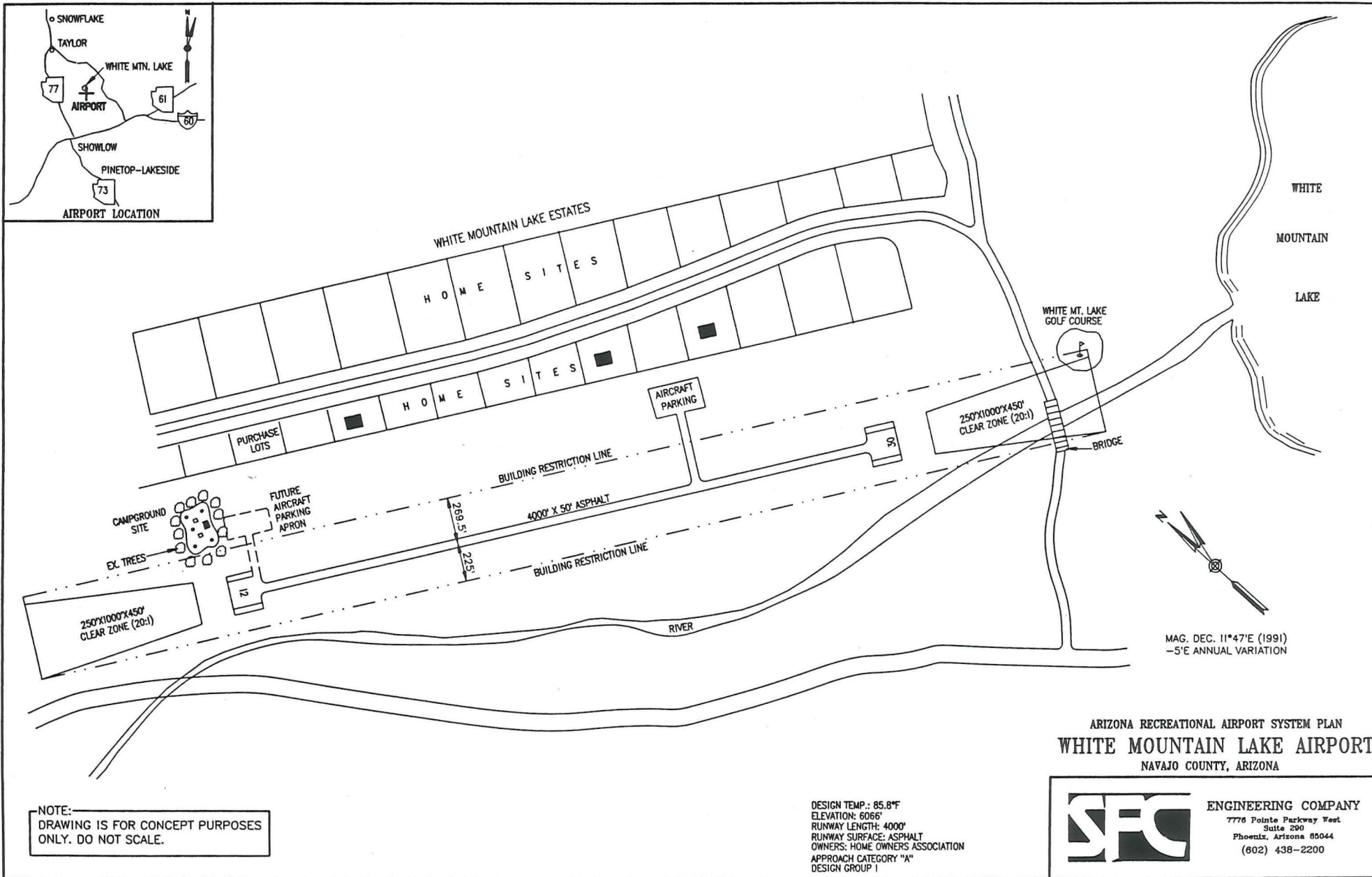
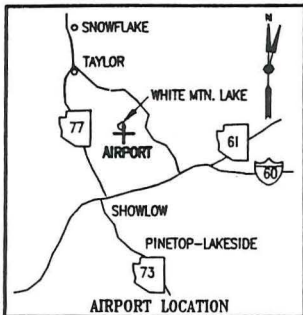
## SPRUCEDALE RANCH (NEW)

<b>A. Runway, Taxiway &amp; Apron</b>	1. Clearing & Grubbing .....	\$120,000
	2. Earthwork & Compaction (L.S.) (Runway, Taxiway & Apron) .....	\$220,000
	3. Aggregate Base Course .....	\$325,000
	4. Prime Coat .....	\$ 35,000
	5. Asphaltic Concrete .....	\$374,000
	6. Stripping (L.S.) .....	<u>\$ 5,000</u>
	Subtotal .....	\$1,079,000
	7. Contingency/Engineering (25%) .....	<u>\$ 269,700</u>
<b>TOTAL A .....</b>		<b>\$1,348,700</b>
<b>Alternate A (Dirt Facility) .....</b>		<b>\$ 490,000</b>
<b>B. Campsite Improvements</b>	1. Clearing & Grubbing .....	\$120,000
	2. Camping Facilities	
	- Landscaping .....	\$6,000
	- Sun Shelters (2 @ \$4,000) .....	\$8,000
	- Tables (6 @ \$300) .....	\$1,800
	- Fire Pits (6 @ \$500) .....	<u>\$3,000</u>
	Subtotal .....	\$ 18,800
	3. Electrical .....	\$ 15,000
	4. Water (Well) .....	\$ 10,000
	5. Sewer (Septic) .....	\$ 10,000
	6. Restroom Building .....	<u>\$ 20,000</u>
	Subtotal .....	\$193,800
	7. Contingency/Engineering (25%) .....	<u>\$ 48,400</u>
<b>TOTAL B .....</b>		<b>\$242,200</b>
<b>C. Land Acquisition (110 Acres)</b>	<b>TOTAL C.....</b>	<b>\$220,000</b>
<b>D. Environmental/Site Planning</b>	<b>TOTAL D.....</b>	<b>\$ 50,000</b>
<b>TOTAL A, B, C &amp; D .....</b>		<b><u>\$1,860,900</u></b>

## WHITE MOUNTAIN LAKE AIRPORT

<b>Location</b>	Silver Creek, Navajo County
<b>Long./Lat.</b>	N34° 21'0"                      W109° 58'30"
<b>Owner</b>	White Mountain Lakes Association
<b>Access</b>	State Route 77 to White Mountain Lakes Road
<b>Elevation</b>	6,066'
<b>Runway Length</b>	4,000'
<b>Runway Width</b>	50'
<b>Runway Surface</b>	Asphalt
<b>Runway Lights</b>	None
<b>Services</b>	Fuel and Telephone.
<b>Recreational Activities</b>	Golf, Boating, Fishing, and other Water/Resort Activities.
<b>Distance to the Activities</b>	Resort and golf adjacent to the airstrip, water related activities approximately one (1) mile.
<b>Obstructions to Airspace</b>	None.
<b>Environmental Impacts</b>	Possibly noise and other impacts associated with a residential area. Housing in the area is fairly sparse.
<b>Site Construction</b>	There are several locations in the area for a campground. It might be necessary to acquire several vacant lots to be used for this purpose. Most of the airport area is open space covered with grass and trees spread sporadically throughout.
<b>Utilities</b>	All utilities are available in close proximity to the airstrip.
<b>Development Costs</b>	Development costs are estimated to be around \$170,000 including the price for several parcels of property.
<b>Maintenance Costs</b>	Annual costs for maintenance are estimated at \$6,000.
<b>Airspace Conflicts</b>	None.
<b>Potential Sponsor</b>	The existing Homeowners Association.
<b>Estimated Annual Users</b>	Usage could be high due to the many recreational activities. Initially 475 to 1,200 users per year within 5 years.
<b>Overall Potential</b>	Good to Excellent





NOTE:  
DRAWING IS FOR CONCEPT PURPOSES  
ONLY. DO NOT SCALE.

DESIGN TEMP.: 85.8°F  
ELEVATION: 6066'  
RUNWAY LENGTH: 4000'  
RUNWAY SURFACE: ASPHALT  
OWNERS: HOME OWNERS ASSOCIATION  
APPROACH CATEGORY "A"  
DESIGN GROUP I

ARIZONA RECREATIONAL AIRPORT SYSTEM PLAN  
**WHITE MOUNTAIN LAKE AIRPORT**  
NAVAJO COUNTY, ARIZONA



ENGINEERING COMPANY  
7776 Pointe Parkway West  
Suite 200  
Phoenix, Arizona 85044  
(602) 438-2200

# WHITE MOUNTAIN LAKE AIRPORT

## A. Campsite Improvements

1. Clearing & Grubbing .....	\$ 9,000
2. Camping Facilities	
- Landscaping .....	\$7,000
- Sun Shelters (2 @ \$4,000) .....	\$8,000
- Tables (4 @ \$300) .....	\$1,200
- Fire Pits (4 @ \$500) .....	<u>\$2,000</u>
Subtotal .....	\$18,200
3. Electrical (Existing) .....	\$ 6,000
4. Water (Existing) .....	\$12,000
5. Sewer (Existing) .....	\$15,000
6. Restroom/Shower Building .....	<u>\$25,000</u>
Subtotal .....	\$85,200
7. Contingency/Engineering (25%) .....	<u>\$21,300</u>
<b>TOTAL A .....</b>	<b>\$106,500</b>

## B. Taxiway & Apron

1. Taxiway .....	\$22,000
2. Apron .....	<u>\$24,000</u>
Subtotal .....	\$46,000
7. Contingency/Engineering (25%) .....	<u>\$11,500</u>
<b>TOTAL B .....</b>	<b>\$57,500</b>

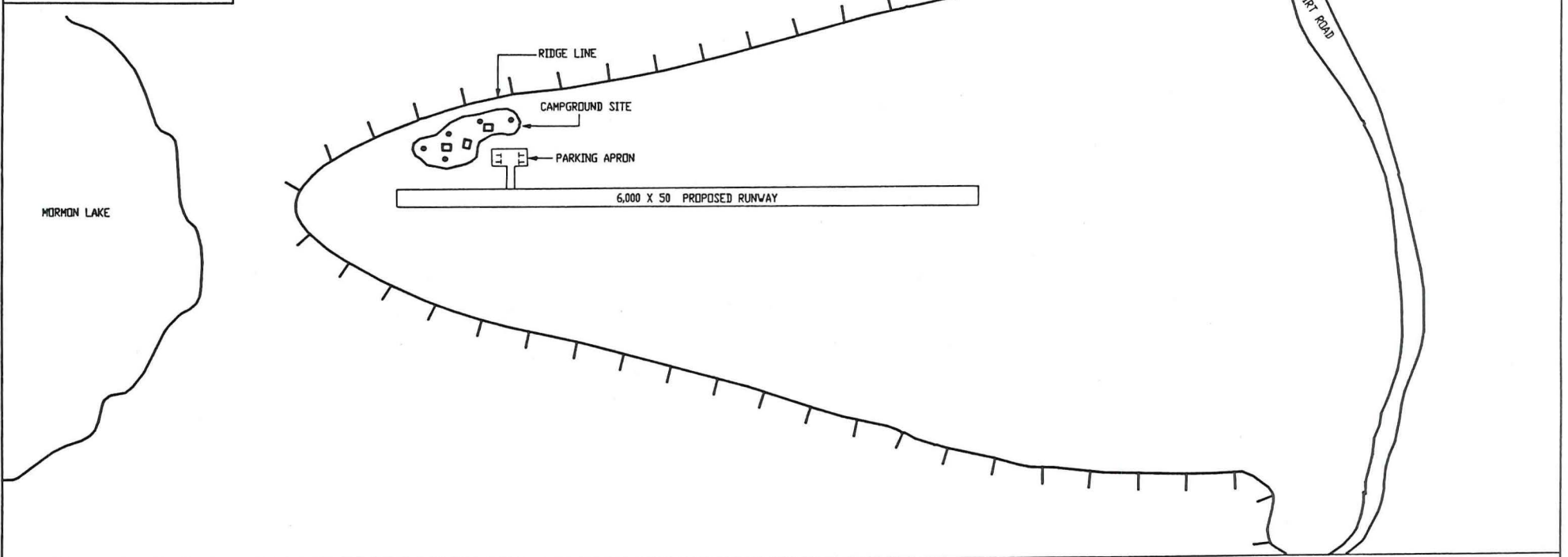
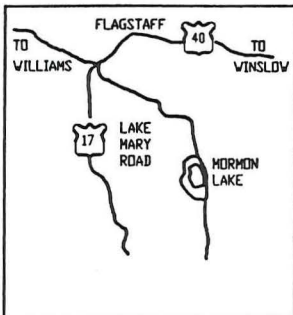
## C. Land Acquisition (2 Parcels)

<b>TOTAL C .....</b>	<b>\$10,000</b>
<b>TOTAL A, B &amp; C .....</b>	<b><u>\$174,000</u></b>

## MORMON LAKE AREA

<b>General Location</b>	Mormon Lake, Coconino County
<b>Access</b>	South from Flagstaff on Lake Mary Road, approximately 22 to 24 miles.
<b>Elevation</b>	Approximately 7,000' MSL
<b>Runway Length</b>	6,000' required.
<b>Recreational Activities</b>	Fishing and other limited water activity. Mormon Lake is not big, so other boating activities would be limited.
<b>Distance to the Activities</b>	The airfield could be built in several locations and still be within a short walking distance to the Lake. Approximate distance would be less than a half mile.
<b>Area Description</b>	The area around Mormon Lake is mountainous to the west and lower hills to the east. Lake Mary Road runs within 500 feet along the lake. There are small recreational cottages along the west and south ends of the lake. The area is not heavily populated. The best development areas for the airfield would be on the north shore and east of Lake Mary Road. The area recommended for the airfield has limited vegetation and very few trees.
<b>Construction/Airfield &amp; Camping Site</b>	The cost of developing an airfield and camp site in the proposed location would be estimated at \$1,200,000.
<b>Maintenance Costs</b>	The cost for maintaining this total facility on an annual basis would be around \$12,000.
<b>Airspace Conflicts</b>	None.
<b>Obstructions to Airspace</b>	Mountains to the north and west, which range in height from 8,000' to 8,800'.
<b>Environmental Impacts</b>	Potential impacts will be endangered species of animals and plant life, land use, water, water quality and construction activities. There are no known impacts that would restrict the airport from being constructed.
<b>Utilities</b>	Electricity may be the only utility in the immediate area. Access to telephone lines is probably within a reasonable distance from both of the sites.
<b>Potential Sponsor</b>	Coconino County
<b>Estimated Annual Users</b>	Limited attraction for pilots and families. Initial users between 600 and 1,300 per year within 5 years.
<b>Overall Potential</b>	Poor to Fair





LAKE MARY ROAD

**MORMON LAKE**  
COCONINO COUNTY, AZ

ARIZONA RECREATIONAL AIRPORT  
SYSTEM PLAN

ELEVATION: 7,000'  
RUNWAY LENGTH: 6,000'  
RUNWAY WIDTH: 50'  
RUNWAY SURFACE: DIRT/GRASS



**ENGINEERING COMPANY**  
7776 Pointe Parkway West  
Suite 200  
Phoenix, Arizona 85044  
(602) 438-2200

## MORMON LAKE (NEW)

### A. Airport Development (Airfield)

1. Clearing & Grubbing .....	\$ 51,000
2. Earthwork & Compaction (L.S.) (Runway, Taxiway & Apron) .....	\$200,000
3. Aggregate Base Course .....	\$228,000
4. Prime Coat .....	\$ 25,000
5. Asphaltic Concrete (3") .....	\$265,000
6. Striping (L.S.) .....	\$ 5,000
7. Access Road .....	<u>\$ 50,000</u>
Subtotal .....	\$824,000
8. Contingency/Engineering (25%) .....	<u>\$206,000</u>
<b>TOTAL A</b> .....	<b>\$1,030,000</b>
<b>Alternate A</b> .....	<b>\$ 206,000</b>
<b>(Dirt Runway/Taxiway)</b>	

### B. Campsite Improvements

1. Clearing & Grubbing .....	\$ 9,000
2. Camping Facilities	
- Landscaping .....	\$8,000
- Sun Shelters (2 @ \$4,000) .....	\$8,000
- Tables (4 @ \$300) .....	\$1,200
- Fire Pits (4 @ \$500) .....	<u>\$2,000</u>
Subtotal .....	\$19,200
3. Electrical (Not on site) .....	\$20,000
4. Water (Well) .....	\$10,000
5. Sewer (Portable) .....	\$10,000
6. Restroom Building .....	<u>\$20,000</u>
Subtotal .....	\$88,200
7. Contingency/Engineering (25%) .....	<u>\$22,000</u>
<b>TOTAL B</b> .....	<b>\$110,200</b>

### C. Land Contingency

**TOTAL C** ..... \$ 25,000

### D. Environmental/Site Planning

**TOTAL D** ..... \$ 50,000

**TOTAL A, B, C & D** ..... \$1,215,200

# **APPENDIX C**





# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
ARIZONA STATE OFFICE  
3707 N. 7TH STREET  
P.O. BOX 16563  
PHOENIX, ARIZONA 85011

RECEIVED

JUN 11 1992

TAKE  
PRIDE IN  
AMERICA

IN REPLY REFER TO:

8300 (931)

528  
June 9, 1992

ACTION REQUIRED BY: PT/WS

SUSPENSE DATE: 6-22-92

RESPOND TO: GA

APPROVED: \_\_\_\_\_

COPY/WORKING FILE \_\_\_\_\_

COPY/READING FILE \_\_\_\_\_

Mr. Warren Sparks  
Aeronautical Division  
Arizona Department of Transportation  
2612 South 46th Street  
Phoenix, AZ 85023

Dear Mr. Sparks:

As a member of the Project Advisory Committee, we would like to thank you for the opportunity to review the Draft Final Report for the Recreational Airports System Plan. As we discussed on June 3, 1992, conflicting schedules prevented our representative from attending the advisory committee meeting. We hope the DRAFT comments faxed to you prior to the meeting were helpful and timely. This letter is the formal response on items covered in the DRAFT letter.

In general, the Bureau of Land Management (BLM) supports the System Plan and concept of recreational airports in Arizona. The BLM will now be able to consider a new type of recreational access facility in future land-use planning efforts. You can consider the BLM a willing partner in the development of a Statewide system in areas suitable for such development.

Specifically, we do have some comments and suggestions which should be incorporated into the final report.

In Chapter Four, page 4-3, Implementation Process, a statement is made about the need to establish an effective relationship between Arizona Department of Transportation (ADOT) and the U.S. Forest Service. This point was highlighted in our comments on Working Paper 3. We still feel that this section should recognize all State and Federal agencies' land-use and transportation planning processes.

Also, as pointed out in our comments submitted on Working Paper 3, we have comments on three of the proposed recreational airports. We did not find these comments considered in the Final Draft Report.

The Marble Canyon Airport identifies the owner as being the Marble Canyon Lodge (private). A portion of the existing airstrip is owned by the BLM and leased to Marble Canyon Lodge. The Bureau of Land Management should also be listed as an owner. The ownership of the proposed campground site cannot be determined by the conceptual drawing. It could be private, BLM, or National Park Service according to our Arizona Strip Office.

Development of a campground on BLM lands at this location is not consistent with the current Resource Management Plan for this area. The report also indicates the private landowner may be reluctant to sponsor this site. In addition, threatened and endangered species may affect the site location of any campground developed in the Marble Canyon Area. For these reasons, careful land status and environmental assessment evaluations would have to be conducted before BLM could offer support for this site. For specific information on this location, contact Dennis Curtis, Area Manager, Vermillion Resource Area, St. George, Utah at (801) 628-4491.

The Martinez Lake Airstrip identifies the owner as being private, on property leased from the State. The location of the strip, as identified in longitude/latitude, corresponds to the general location identified in Figure 2-1, but not the location on the conceptual map identified as 30 miles north of Yuma. There are three airstrips in the general area of Martinez Lake and we could not determine for certain which one was being recommended for improving. BLM is a major landowner in this area, but we were unable to determine if we are affected by this proposed development. We recommend that the longitude/latitude location for the proposed development be verified. For specific information on this location, contact Mike Taylor, Area Manager, Yuma Resource Area, at (602) 726-6300.

The Alamo Lake Site may be located on BLM lands under application to the Corps of Engineers and BLM lands leased to the State of Arizona. During site investigation, we recommend that ADOT contact Mike Taylor at the number listed above to sort through land ownership and lease stipulations which may affect site selection.

Thank you for allowing BLM to participate in the effort. We would like to continue to work with ADOT in the implementation phase of the Recreational Airport Program.

Sincerely,



Beaumont C. McClure  
Deputy State Director  
Lands and Renewable Resources





United States  
Department of  
Agriculture

Forest  
Service

Tonto  
National  
Forest

2324 E. McDowell Road  
P.O. Box 5348  
Phoenix, AZ 85010  
602 225-5200

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JUL 25 1991

AERONAUTICS DIVISION

Reply To: 2720/2300

Date: July 24, 1991

LH  
WS  
SFC

Mr. Warren Sparks  
Arizona Department of Transportation  
Aeronautics Division  
2612 S. 46th Street, 425 M  
Phoenix, Arizona 85034

Dear Mr. Sparks:

After discussing the proposed new recreational airfields sites with both the Coconino and Apache-Sitgreaves National Forests, I find they both have similar concerns.

None of the four sites (Mormon Lake, Kinnickinnick Lake, Big Lake, and Greer) were considered in the development of the individual Forest Plans. Therefore, management of these areas was considered for other possible uses; such as dispersed or developed low impact camping. While the lack of review and study for airfields does not preclude their development, it will require very intense study and coordination as any changes to a Forest Plan require a Plan amendment.

Current thinking is that while these sites may have potential for this use; they will require a great deal of study and may not be well suited as recreational airfield sites.

If you have any additional questions concerning these sites, please don't hesitate to contact the Forest Supervisor directly.

Sincerely,

LARRY A. SOEHLIG  
Lands & Minerals Staff Officer

cc:  
Coconino NF  
Apache-Sitgreaves NF  
C. Taylor







United States  
Department of  
Agriculture

Forest  
Service

Pleasant Valley  
Ranger District

*David*  
P.O. Box 450  
Young, AZ 85554  
602 462-3311

LH *[initials]*  
WS

Reply To: 2720

Date: July 29, 1991

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JUL 31 1991

AERONAUTICS DIVISION

Warren Sparks  
ADOT/AERONAUTICS  
2612 S. 46th Street  
Phoenix, AZ 85034

Dear Mr. Sparks:

It was a pleasure meeting with you during your visit to the Pleasant Valley International Airport.

During our conversation, you requested information regarding the Recreational Opportunities for the Pleasant Valley area and how the Pleasant Valley International Airport would assist in these opportunities. The following is a brief summary of some of the Recreational activities.

Located 8 miles north along the Chamberlain Trail, FDR #200, is Haigler Creek. This area provides opportunities for overnight camping, fishing or day use of swimming, hiking or picnicking.

Down FDR #200 and State Highway #288 is located the community of Young. Within the community one can visit two historical museums (one exhibiting historical artifacts from the 1940-1950 era and the other highlighting the Perkins Store, central focal point of the Pleasant Valley War), 9 identified sites of the Pleasant Valley War, Young Cemetery (five participants of the Pleasant Valley War are buried here), Trap Shoot Contest (held once a month) and home to numerous weekend retreaters.

North along Forest Highway 12, FDR #512, are located numerous underground caves. This area provides speleologist a wide variety of challenges from the complex Pishiboro to the simple Redman Cave.

There are numerous prehistorical sites located in and around Young, that could provide recreational opportunities for amateur archaeologist.

Both Young and Haigler Creek provide opportunities to purchase private land for the construction of a weekend retreat.

If you have any questions, please contact Howard S. Okamoto.

Sincerely,

*H. Ben Chris*  
JAMES R. SOETH  
District Ranger

cc: Young Community Council





# ARIZONA STATE PARKS

800 W. WASHINGTON  
SUITE 415  
PHOENIX, ARIZONA 85007  
TELEPHONE 802-542-4174

ROSE MOFFORD  
GOVERNOR

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MAR 28 1991

AERONAUTICS DIVISION

March 27, 1991

WS  
FC

Gary Adams  
Aeronautics Division  
Arizona Department of Transportation  
2612 South 46th St.  
Phoenix, AZ 85034-7417

Dear Gary:

We are impressed with the effort that went into the preparation of the draft Recreational Airports System Plan. Franzoy Corey is doing an excellent job. After evaluating the draft, we have come up with only a few comments which I have listed below.

- The Site Selection Matrix should include an evaluation of the visual impacts resulting from construction and operation of a recreational airport.
- As mentioned during our meeting, the Site Selection Matrix should address existing land use plans under the Compatible Land Uses evaluation factor
- Social Impacts might better be labeled Socio-Economic Impacts. The economics of-site selection should be one of the most important evaluating factors if the goals of the plan include getting tourist dollars into rural Arizona.
- An economic impact report would be a useful tool for analyzing the costs/benefits to the state resulting from construction and operation of the airports. Just what sort of economic return can Arizona expect from an investment in recreational airports? Idaho and other states with these airports undoubtedly have information that would assist in the preparation of the study. Such a report would be helpful in generating sponsors. An


Gary Adams  
March 27, 1991

economic analysis on a site by site basis would be useful for evaluating potential sites.

Arizona State Parks is not able at current funding levels to sponsor a recreational airport; however, during our next planning cycle we will be addressing the potential for operating and maintaining such facilities within the State Parks system..

I hope you find these comments helpful in preparing the final plan. I look forward to continued participation on the Project Advisory Committee.

Sincerely,

A handwritten signature in dark ink, appearing to read "Jill Welch", with a long horizontal flourish extending to the right.

Jill Welch  
Recreation Planner



